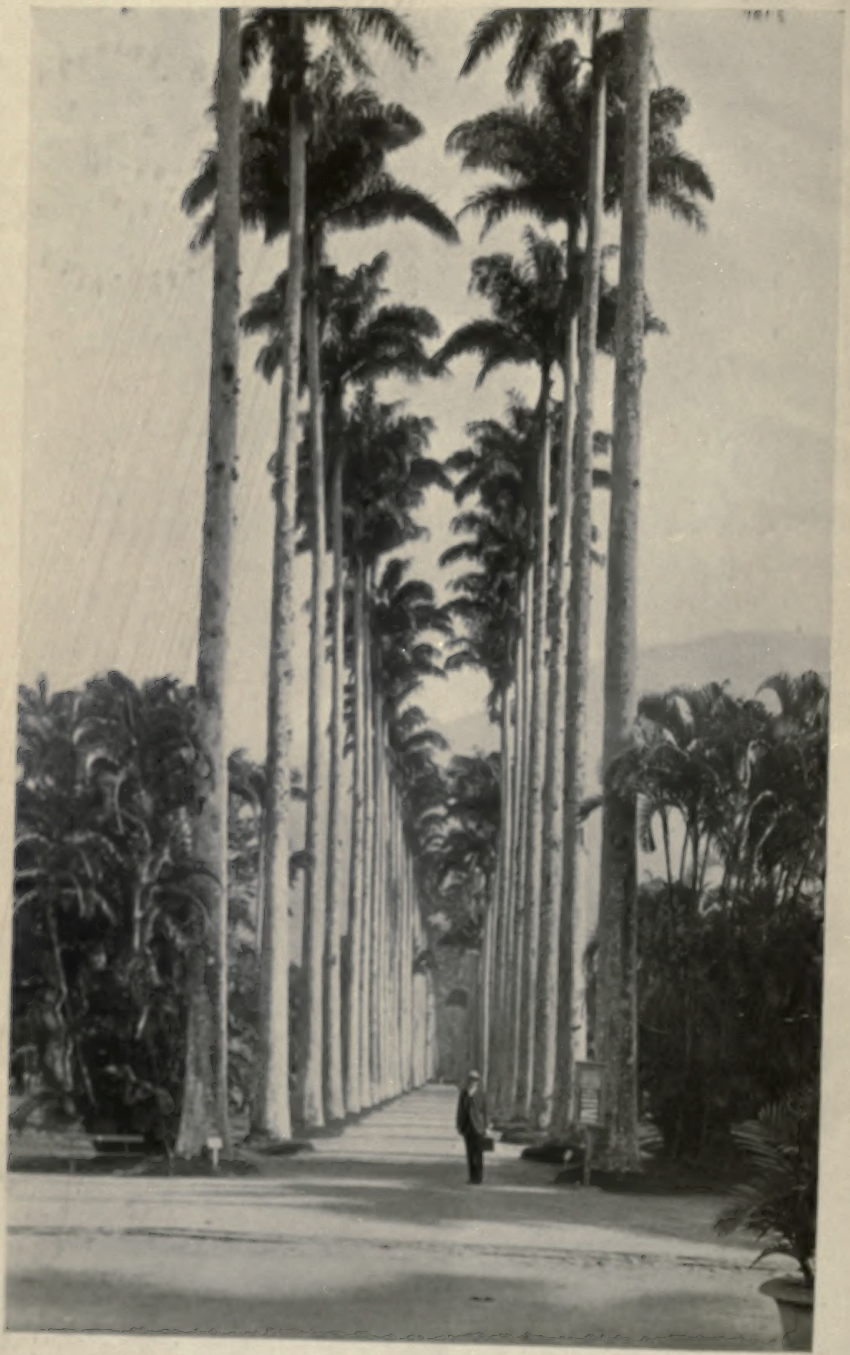
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# ENCYCLOPEDIA

OF

# LATIN AMERICA

DEALING WITH THE LIFE, ACHIEVEMENT, AND
NATIONAL DEVELOPMENT OF

## THE COUNTRIES OF SOUTH AND CENTRAL AMERICA
## MEXICO AND PANAMA
## THE WEST INDIES

AND GIVING SPECIAL INFORMATION ON

**Commerce, Industry, Banking, Finance, Railways, Shipping, Transportation, Communications, Trade, Tariff, Customs, and all matters of Commercial Importance.**

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# FOREWORD

By JOHN BARRETT

Director General of the Pan American Union, formerly United States Minister to Argentina, Panama and Colombia

I congratulate the Editors of the ENCYCLOPEDIA OF LATIN AMERICA upon the publication of this useful, authoritative and scholarly work. It is most timely. It is completed and ready for reference and study when everybody is, or should be, interested in the progress and potentialities of the twenty American Republics which reach from Mexico and Cuba on the north to Argentina and Chile on the far south. It comes at an hour when Pan America, which includes the United States and Latin America, and Pan Americanism, which requires the co-operation of the United States and Latin America for the common good of all America, have a significance never before realized.

It is authoritative because it is written by men who are not only familiar with the subject they discuss through long investigation and extended experience, but who are thoroughly sympathetic with the countries and people they describe. Mr. Wilcox, whom I have regarded for many years as a real Pan American, understands what is most important: the Latin American, as well as the North American, viewpoint in the discussion of a topic of Pan American interest. Both he and Mr. Rines are " muy simpáticos " in their mental attitude towards Latin America. They have, therefore, successfully arrived at a true interpretation of the facts they give. The encyclopedia is scholarly because it has been carefully and studiously prepared by men of wide knowledge to stand the test of criticism and be regarded as a high class work of reference. It is an intellectual achievement as well as a compilation of useful and educational data.

Commenting from the standpoint of one who has unremittingly for nearly sixteen years, first, as a United States Minister in Argentina, Panama and Colombia, and, later, as Director General of the Pan American Union, endeavored in his humble way to promote practical Pan Americanism, I sincerely rejoice at the help that the great cause of international co-operation and welfare must receive from this work. The Pan American Union, being the official international organization of all the American Republics, devoted to the development of friendship, intercourse, commerce and peace among them, looks with favor on any worthy effort which will not only inform and educate the people of the United States about its sister American Republics but which will also inform and educate every Republic about each and all of the others. Pan Americanism places each American Republic on the same basic equality with every other American Republic. It has no favorites except all. It stands for the domination of no one republic over the other republics, but for the domination of all in the advancing of Pan American ideals in world civilization. This Latin American Encyclopedia through its spread of accurate information will serve Pan American solidarity and community of action and purpose.

It is especially fitting that this encyclopedia should be upon our tables when international relations are more to the front than ever before in modern history. The world is facing the greatest international crisis of the late centuries. It is appropriate, therefore, to devote special attention to international subjects—especially to Latin America, for its score of countries are now entering upon a new era of economic, commercial, social and administrative development which will astonish the world. When we pause and think that these lands of the South occupy an area of between eight and nine millions of square miles, have a population of seventy-five or eighty millions of souls, and maintain an annual foreign trade which is valued in excess of three billions of

dollars, and that they are yet only in the beginning of their possibilities individually, collectively, and in co-operation with the United States, we understand why a Latin American Encyclopedia of this character will be welcomed to the international library and to every student of international affairs.

Again, when we grasp the fact, as I have repeatedly said on other occasions, that the present world war is doing more than any other influence since the declaration of the Monroe Doctrine in 1823 to develop and make permanent Pan American solidarity of interests, and that it is inevitably evolving the Monroe Doctrine into a Pan American Doctrine — that is, an international doctrine and policy that will belong to every American Republic as much as to the United States,— then, I say, we must experience a real desire to know more of the constituency of such solidarity and such doctrine. The gratification of search for information we shall find in this Latin American Encyclopedia.

While, in conclusion, my official position requires that I should make the formal reservation that neither I nor the Pan-American Union shall be held responsible for any comments, opinions or statements expressed in this valuable work, I say this simply and only to comply with the rules of the office with which I am connected, and not in any way to reflect upon the quality and reliability of the Encyclopedia.

# EDITORS' NOTE

The Encyclopedia of Latin America has been prepared with the purpose of affording the American public a clear and definite idea of Latin American civilization — political, educational, social, commercial and industrial — as it is at the present time. The commercial and industrial side of that civilization is presented with especial fullness in the hope that the Encyclopedia will prove of real practical value to all who have commercial relations with or need accurate information concerning the trade and industry of Latin America.

Acknowledgment is here made of the valued co-operation of the individual contributors, and especially of the invaluable assistance rendered by the Hon. John Barrett of the Pan-American Union, Washington; Mr. O. P. Austin of the National City Bank, New York, and the Latin American Division, Department of Commerce of the United States.

In so wide and in some respects untravelled a field, much remains to be done and said, but we believe the information on subjects of present-day interest will be found fairly complete and that the work will prove a solid groundwork for other and more extensive studies.

The Editors.



*The Pan American Building in Washington*, which is the home of the Pan American Union, the official international organization of the 21 American Republics devoted to the development of commerce, friendship and peace among them. This noble building, constructed entirely of white marble, and its beautiful grounds, represent an investment of $1,000,000. The greatest living French architect has described the building as combining beauty of architecture and usefulness of purpose, for its cost, more than any other public edifice in the world. It is literally the *Capitol* of the Western Hemisphere in the personal *Capital* of the United States, for there meets regularly within its walls the Governing Board of The Pan American Union, which is the actual Congress of all the American Republics, composed of the Secretary of State of the United States and the Latin American Ambassadors and Ministers to Washington. This Board has the unique distinction of being the only permanent international peace council in the world, while the building and the organization is the only one in the world controlled jointly by a large group of nations. In its practical everyday work the Pan American Union is a great international bureau of information. Its Director General is John Barrett, former United States Minister to Argentina, and its Assistant Director, Francisco J. Yanes, of Venezuela

# LATIN AMERICA

By Marion Wilcox

LATIN AMERICA is the name employed to distinguish, as a group, 20 American republics (Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Salvador, Uruguay, Venezuela), and in a still larger sense, but less accurately, as a general term to designate all of the central and southern portions of the New World, continental and insular as well, between the United States and Cape Horn. Now, the total area of the 20 Latin American republics is about 8,150,000 to 8,200,000 square miles and the aggregate population of the same countries not less than 75,000,000; in each the language of the ruling class is Spanish, except in Brazil, where it is Portuguese, and in Haiti, where it is French or a patois called "creole." But we find in the central regions of the Western Hemisphere about 205,000 or 206,000 square miles with 3,190,000 to 3,200,000 inhabitants not included in any of the Latin American republics: on the contrary they are held as dependencies by Great Britain, Holland, France, or the United States; and for us to denominate all these dependencies "Latin American" would be more or less improper and misleading.

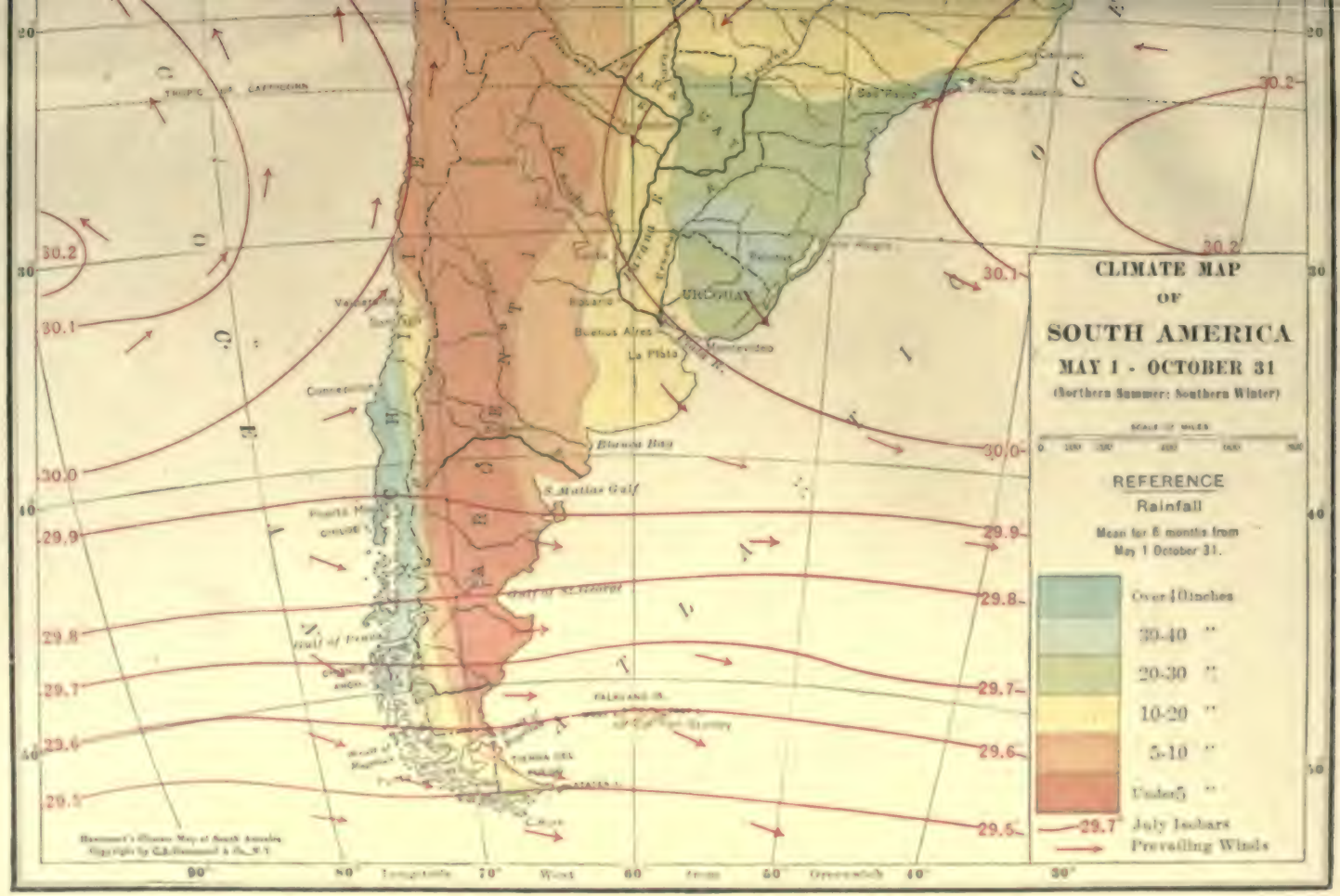
A few facts are here given which may serve to supplement descriptions in the articles devoted to South America, Central America, Panama, Mexico and the West Indies; to each of the above-mentioned republics, and to their political subdivisions.

## CLIMATE

Readings of the thermometer, as set down in the author's notes of travel in Latin America, are the following: At Montevideo, Uruguay, 18 June, 54° F. at 11 A.M.; Buenos Aires, Argentina, 4 July, 52° F. at 3 P.M. But the average of these two, namely 53° F., was recorded on the west coast of South America as the lowest figure the mercury reached during the cold season at Lima — which lies so much nearer than do Buenos Aires and Montevideo to the equator that its range of temperatures would be decidedly higher were it not for the influence of the cold Humboldt current. In the article CHILE reference at greater length is made to this current, which is a truly beneficent river of the ocean, constantly tempering and stabilizing the climate along the Pacific coast, flowing northward and then northwestward along that coast until headlands below the equatorial line throw it straight out to sea, to cool one side of the Galapagos Islands. That is one of the big facts about the climate; now let us renew our acquaintance with other facts in the same field.

At the confluence of the Paraguay and Alto Paraná rivers, 25 July, the thermometer showed 80° F. in the shade at 10 A.M., and about noon of the same day on the Paraguay River, 92° F. in the shade; at Asunción, Paraguay, 27 July, 84° F. in the shade; in the same city, 28 July, 78° F. at 9 A.M. The circumstance that Asunción is built on a hill counts for much. Comparing these observations, made in regions remote from the ocean, with observations at moderate altitudes above the Atlantic coast, we notice a striking difference immediately. Thus, on the road from the Brazilian port of Santos to São Paulo, 14 August, the thermometer showed only 62° F. at 2 P.M., and in the city of São Paulo, 15 August, 61° F. as the average of the forenoon. At Rio de Janeiro (nearly at sea-level), 19 August, we find 72° F. in the afternoon, but only 67° F. at 7–8 A.M., 20 August; and, as the record for the warmest day of that "winter" season in Rio, 84° F. at 3–4 P.M. A short distance away, at Petropolis among the mountains, we note 63° F. at 7 A.M.; and at an elevation of 1,500 feet above Rio, in the tropical forest clothing the flanks of Corcovado, 29 August, 69° F. at 7 A.M. The fact thus illustrated is, simply, that regions sufficiently elevated to receive quite directly the cool and saturated ocean breezes have, even in these latitudes near the Tropic of Capricorn, a climate not given to extremes but favorable to man and vegetation alike. Again, near the Atlantic coast in lat. 1° 52′ S., long. 38° 45′ W. we read 84° F. at 11 A.M.; in lat. 1° 13′ N.,


A T L A N T I C
CARIBBEAN SEA
VENEZUELA
COLOMBIA
GUIANA
B R A Z I L
PERU
30.0
29.9


CLIMATE MAP
OF
SOUTH AMERICA
MAY 1 - OCTOBER 31
(Northern Summer: Southern Winter)
REFERENCE
Rainfall
Mean for 6 months from
May 1 October 31.
Over 40 inches
30-40 "
20-30 "
10-20 "
5-10 "
Under 5 "
29.7 July Isobars
Prevailing Winds
30.2
30.1
30.0
29.9
29.8
29.7
29.6
29.5
URUGUAY
Buenos Aires
La Plata
Montevideo
Bluenos Bay
S Matias Gulf
Gulf of St George
Gulf of Penas
Strait of Magellan
Cape
Longitude West from Greenwich

long. 43° 51′ W., 86° F. at 12, noon, to 1 P.M.; in lat. 8° N., long. 53° 48′ W., 85° F. at 2 P.M. The highest temperatures (in the shade) observed at the equator near the Pacific or Atlantic coasts, either at sea or where the ocean influence controls — 85° or scarcely more than 86° F.— must be called quite moderate. (See comment on this subject in the article BRAZIL). In the corresponding regions north of the equator, near the Tropic of Cancer, we appreciate, or resent, most promptly the development of intolerable degrees of heat in regions that are enclosed and far from the sea. For example, we notice en route Oaxaca, Mexico, to Puebla, 14 March, 100° F. in the otherwise comfortable cars of a train running through a valley. It is necessary to remember that the Antillean regions (see CENTRAL AMERICA) look out, on one side at least, upon a comparatively restricted and nearly bisected American Mediterranean, not upon the ocean which plays the part we have mentioned all along the South American east coast; that the trade winds and the gulf stream visit some portions of this interpolated continental area assiduously, but are as constantly deflected from other portions; and, partly for this reason, each subdivision of the vast, varied, and most interesting Antillean region is the subject of a special study. (See the separate titles). Panama, occupying the narrow space between two oceanic elbows, has, as shown by observations in a sheltered building near the centre of the capital during the year, an equatorially limited range of temperatures — from 76° F. to 88° F. But places shut in, even parts of the city of Panamá itself, because they lie nearly at sea level, may have 100° F. thrust upon them when the air-currents from ocean to ocean are interrupted temporarily.

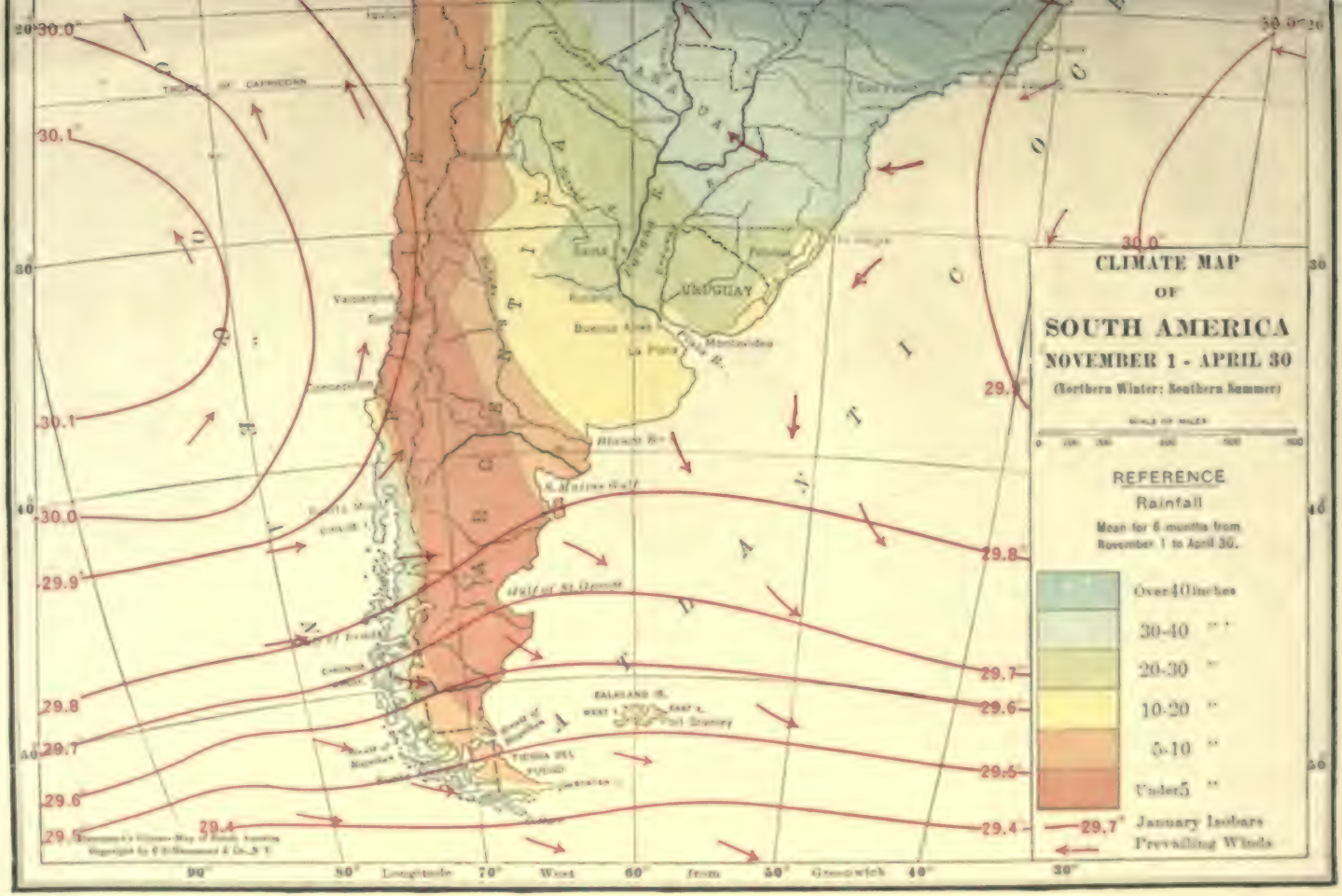
### Climatic Values of Altitude

Here again in Panama (and this is not less true of the Central American States) we find that even a moderate elevation mitigates the tropically oppressive conditions that are notorious in the lowlands. The importance of this consideration becomes apparent when we reflect that in much more than one-half of the entire land-area in the New World between the Tropics of Cancer and Capricorn nature assigns the control of temperatures to mere altitude or to the almost equally permanent influence of oceanic and aerial currents. But in the vast highlands of Latin America one learns by experience, if he has not learned through previous study, that the pure and rarefied air is bad for any weakness of the heart, and, even when there is no such weakness, produces what is

commonly known as soroche (anoxæmia or mountain-sickness). It is worth while to note quite carefully the effects of the change from sea-level to these great altitudes, since the experience bears directly upon the question of the value of these uplands as regions where civilized men can live and work successfully. We observe, as first effects, that the skin becomes rather dry and the digestive processes are deranged — with consequent pains and penalties. We must add the following symptoms: lassitude, loss of appetite, aversion to all forms of physical effort, and drowsiness. The heart finds its steady job a bit harder than usual, and one gets out of breath too quickly, the air seeming to supply the lungs with inantritious food. After a long voyage a traveller in vigorous health suffers to this extent — that is, slightly and for a few days at least — on making a rapid and radical change. But in a week or so these symptoms disappear and he should find no trouble in making any physical effort that the situation calls for. Quite the contrary, in fact. We enjoyed mountain-climbing, long walks, long and hard riding, at altitudes of about 12,000 feet for several weeks and ranging from 10,000 to 16,000 feet during two months. The impression we receive in regard to the people living in Andean towns (for example) situated at altitudes of 7,000 to 14,000 feet is that they, as a rule, with some rather sad exceptions, are not being injured by the climate.

Naturally healthful regions are the following: 1. The extensive region south of a line drawn from ocean to ocean through the cities of Paysandú and Valparaiso, including all of southern Argentina and Chile. 2. The uplands of southeastern Brazil. 3. The Andean habitable districts, including many valleys and cuencas, at altitudes ranging from 6,000 to 12,000 feet. 4. In Venezuela, Central America, and Mexico, the districts, often fertile and extensive, at altitudes ranging from 2,500 or 3,000 to 7,000 feet, more or less. 5. Portions of the West Indies receiving the full benefit of the trade winds and ocean currents. Unfortunately it is necessary to note the prevalence of such diseases as typhoid fever in cities and towns whose favorable situation in temperate uplands does not safeguard them against the consequences of neglecting sanitary regulations. The tropical conditions in the low-lying parts of Central America and the northwest coast of South America (to and including the Gulf of Guayaquil) are unfavorable to health chiefly because enormous deposits of alluvion and excessive rainfall offer ideal conditions for the propagation of disease-bearing insects. Yellow fever and malarial fevers have therefore long been regarded as endemic.


A T L A N T I C
O C E A N
C O L O M B I A
G U I A N A
B R A Z I L
E C U A D O R
P E R U
29.9
29.9


CLIMATE MAP
OF
SOUTH AMERICA
NOVEMBER 1 - APRIL 30
(Northern Winter: Southern Summer)
REFERENCE
Rainfall
Mean for 6 months from November 1 to April 30.
Over 40 inches
30-40 "
20-30 "
10-20 "
5-10 "
Under 5 "
29.7° January Isobars
Prevailing Winds
30.0°
30.1°
29.9°
29.8°
29.7°
29.6°
29.5°
29.4°
29.2°
PACIFIC OCEAN
ATLANTIC OCEAN
ARGENTINA
CHILE
URUGUAY
PARAGUAY
BOLIVIA
PERU
Buenos Aires
La Plata
Montevideo
Falkland Is.
Port Stanley
Longitude West from Greenwich

Similar conditions are found in the great Amazon valley and on the tropical Brazilian coast between the Atlantic and the highlands of the interior. Successful efforts to combat and control these fevers have been made at focal points — at Santos and Rio de Janeiro, at Panama, etc. — but much still remains to be done. Annual rainfall is most excessive in amount at Pernambuco and Iquitos in Brazil, at Greytown in Central America, and in the Territory of Magellan, in southern Chile; it is least on the Peruvian littoral and in northern Chile (q.v.); it is as a rule moderate in the interior of Argentina. Dense fogs, called garúas, supply the place of rain (but only to a slight extent) in the arid west coast regions just mentioned. Ever since the discovery of the New World the fact has been observed that the most vigorous races gained their development in the extreme south (region number 1) and in the temperate or relatively cold uplands (regions 3 and 4). It is not less interesting to observe that the most progressive and vigorous element of which we have any record in the early history of Brazil had its home in region number 2. For the exceptionally benign and temperate climate of Uruguay, see the article devoted to that country.

## FAUNA AND FLORA

The highlands of the northern and central portions of Mexico are included in the Nearctic Region and their fauna is classed with that of all temperate and arctic North America; but naturalists, grouping together all other parts of Latin America, in the wider sense of that term, distinguish the group (thus composed of Central America and Panama, the Mexican lowlands, the West Indies, and South America) as the Neotropical Region. A valuable study entitled *A Zoölogical Expedition to South America*, by W. E. Agar (*Royal Philosoph. Soc. of Glasgow Proc.*, 1909, Vol. 40, pp. 53–65), contains an expression of its author's opinion to the effect that the Neotropical is, of all those regions into which zöologists divide the world in accordance with their fauna, by far the most interesting. It is indeed true that the sportsman in search of big game goes by preference to Africa, "where he meets enormous herds of that perhaps most highly specialized and successful of all the orders of mammalia, the ungulates or hoofed animals, and is able to take his part in the extermination of the antelopes, giraffes, rhinoceroses, zebras, hippopotami and elephants." These forms, however, so characteristic of Africa, are

actually — for the very reason that they belong to a highly specialized group — of no particular interest to the zoölogist. But we find a very different state of things when we turn to the main land-mass of Latin America. "Instead of great herds of ungulates, we find there only four families of them represented. The pigs are represented by the peccary, the cervidæ by a few species of deer, the camels by the llama, and finally there is the tapir, while the beasts which we may call characteristic of the country are such forms as the opossum, armadillo, ant-eater and sloth, all very lowly organized animals."

Our interest in this fauna is deepened when, at the suggestion of the same writer, we examine its history in past geological ages. "The past history of the mammals [in general, i.e., in all regions] shows us that, broadly speaking, most new forms arose in the North Polar regions (which we know were much warmer then than now) and spread thence southwards, exterminating to a large extent the more primitive earlier forms, and being sometimes ousted in their turn by new forms migrating southwards. Now, the primitive mammals which arose in the Northern Hemisphere seem to have reached South America, not across the Isthmus of Panama — for we know that the whole south portion of North America was submerged at this period — but probably by means of a land connection across the Atlantic with Africa. Whatever may have been the exact nature of this connection between South America and the other land-masses of the globe toward the end of the secondary geological epoch, it is certain that it was soon broken through and that South America was completely isolated during the whole of that period in which the most active evolution of mammalia was taking place in other parts of the world. The few low mammals which had got into South America before it became isolated evolved a very peculiar mammalian fauna, including such forms as the giant sloth or Megatherium, and Glyptodonts like gigantic armadillos, which, however, never reached a very high grade of development, such as the mammals in the more desperate struggle for existence that was going on in other parts of the world were attaining." But finally a new path of approach to this completely isolated continent was constructed. During the end of the Miocene period the emergence of the Isthmus of Darien or Panama allowed the influx of more highly specialized forms from the Northern Hemisphere; and accordingly we find that fossiliferous beds dating from this period hold the remains of lions, the sabre-toothed tiger, dogs, bears, llama,

deer, horses, tapirs and peccaries — animals that had been abundant in other parts of the globe for ages before, but had been unable to reach South America for the reason mentioned. These invaders "established themselves to a great extent at the expense of the old typical South American fauna. Remains of this original fauna, however, still survive in the opossum, armadillo, ant-eater and sloths, while the new forms, which are now far more abundant, both in numbers and species, include such forms as the deer, tapir, peccary, puma, jaguar, wildcats, dogs, etc." Ex-President Roosevelt invites our attention particularly to the fact that South America has the most extensive and most varied avifauna of all the continents. The rhea, or American ostrich, and the fur seal were studied with true interest by Dr. John Augustine Zahm in Uruguay. For the distinctive fauna and flora of an important part of the west coast, see CHILE. On the other hand the countries of Central America, forming borderlands between the greater North and South, naturally show some results of the proximity of the former; nevertheless the influence of the latter has been in these respects so much the more potent that Central America is with good reason assigned to the Neotropical Region, as we have said above.

Near the heart of South America, the region called the Chaco is interpolated between the region of great forests and the sabanas and pampas — the last being poor in vegetation while the first is in the same respect almost beyond belief richly endowed: since in that vast Amazonian valley the vegetable kingdom long ago fairly conquered the animal kingdom by expelling or subordinating the most important terrestrial mammals. (Consult *Putnam's Magazine*, Vol. VII, pp. 194–199, New York, Oct. 1909–April 1910.) Of course it is still impossible to say what addition will be made to recognized lists of plants by these equatorial South American forests: they have never been more than partially explored; a civilizing reconquest of the fertile areas they usurp has never been attempted systematically. Taken all together they make the Great Forest of the world, sharing primacy in the list of this world's natural features with the Andes, the greatest of mountain masses, and with the Amazon's wholly incomparable torrents. We mention here only a few of the best known natives of widely separated parts of Latin America: Cinchona, maté (*Ilex paraguayensis*), coca, various rubber-producing forest growths, victoria regia, maize and *Agave americana* (both presumably Mexican), tobacco (a product of the islands of the West Indies), and potato, claimed as a native by both Chile and

Peru. A very early association existed with the flora of the Eastern Hemisphere; a much more recent connection was established with the North American flora. (See above.) Botanic geography will, we think, establish the facts that Latin America's most distinctive and distinguishing possession is its flora and that in this respect, even more — or much more — than in respect to its fauna, it claims and will reward our attention; and although this is " by far the most interesting region " to the botanist as well as to the zoologist, we shall find both botanists and zoölogists at one in asserting that the primitive geologic union of the South American continent with Africa and Australia explains many phenomena which could not be understood otherwise. Briefly, then, Latin American flora and fauna, both of surpassing interest, have indeed enjoyed independent development, yet in most ancient times they undoubtedly influenced and in turn were influenced by the flora and fauna of equatorial, tropical and sub-tropical regions of the Eastern Hemisphere.

## LANGUAGES

Interesting variations are observed in the Spanish, spoken and written, which, as we have said, is the language of the ruling classes in 18 of the republics. Thus, in Mexico its characteristics are those of the tongue of southern Spain, but in Costa Rica those of northern regions in the mother country; in distant Chile the Castilian linguistic standards are flouted (the substitution of *j* in place of *g* being a single example of literary and popular revolt), while Cuba has held fast to the good old Spanish linguistic traditions through all the years of political insurrections and armed rebellion. Ecuador, Colombia, and Peru deserve their fame as, in this respect, conservative centres of an inherited culture, where the best usages are appreciated by writers and speakers. The literature of that great country, Brazil, in which Portuguese is spoken, seems to all loyal Brazilians a priceless treasure, even as the manuscript of the *Lusiad* seemed to Camões; they cherish their language in corresponding degree — somewhat too exclusively.

## GOVERNMENTS OF LATIN AMERICA

The Latin American countries are constitutionally either federal states, resembling most nearly in this respect the United States of America, or are unitary and centralized. The

United States of Brazil, the United States of Mexico, and the United States of Venezuela more obviously stand in the class first mentioned; Argentina's governmental plan embraces some of the features characterizing each class; the other countries (*Republic* of Bolivia, *Republic* of Colombia, etc.) in the main illustrate by their organization the growing unitarian or centralizing tendency: "Republic of Colombia" was formerly "United States of Colombia"; the variations are, however, so complex that we convey only an approximately correct idea of them when we say that the federal form of government in Latin America resembles that of the United States and the centralized that of France. The readers who wish to study this subject closely will find paragraphs on government and constitution in the articles devoted to these countries separately, with careful bibliographic reference to such special works as are available. Frequent constitutional changes are there recorded; but these must not be regarded as indications of weak vacillation. It is only fair to say that they are to a somewhat greater extent than we commonly realize paralleled in our own experience, particularly in the matter of State governments (compare Holcombe, A. N., *State Government in the United States*, pp. 119–20, New York 1916); that by the middle of the 19th century "the constitutions of most of the States of the United States had been revised or were in process of revision"; and that, "beginning in 1870, the constitutions of most of the leading States in the north outside of New England [and in the south after the overthrow of negro domination] were revised, the culmination of the movement being reached in New York in 1894." Some of the most interesting constitutional changes in South America (for example, in Paraguay) were designed simply — and wisely — to prevent the recurrence of dictatorships and so to safeguard orderly development in the future. The dangers in that quarter have often been bravely met and will surely be overcome; their magnitude, and the importance of these phenomena in every study of this branch of our subject, may be barely indicated in the following outline of Latin American dictatorships:

In Mexico, since the establishment of independence, there have been 10 acknowledged dictatorships. The "usual alternations of anarchy and military rule" — the long period of internecine strifes, during which one president after another was summarily deposed — drew to an end about 1876. Gen. Porfirio Diaz succeeded Lerdo de Tejada in May 1877. He was re-elected in 1884, and remained at the head of the government up to the time of his abdication in May 1911. In Paraguay, three years after

allegiance to Spain was renounced, the congress in October 1814 decided to make Doctor (of theology) José Gaspar Rodriguez Francia dictator for three years. Before the expiration of his term of office, another congress decreed that his dictatorship should be perpetual. He died 20 Sept. 1840. Francisco Solano Lopez (16 Oct. 1862 to 1 Mar. 1870), though constantly referred to as a dictator, was officially known as " president of the republic." By an act of congress, 16 Oct. 1862, he was made " president of the republic for 10 years," his father, Carlos Antonio Lopez, having been president during the 18 years immediately preceding, that is, from 1844 to 1862. In Bolivia there was at first no need to employ the word dictator, simply because the constitution of that country, framed by Bolívar and accepted without change or even debate by the congress at Chuquisaca, 25 May 1826, conferred ample dictatorial powers upon a " president " who should hold office for life; nevertheless the higher title was repeatedly assumed or conferred. In Colombia (when it included New Granada, Venezuela, and Ecuador), we find, first, military dictatorships established before 1827 by Paez in Venezuela and by Mosquera in Ecuador; and then the dictatorship of Bolívar, who assumed absolute sovereignty in 1828 over the entire Colombian federation. Almost immediately afterward the federation broke up. The racial aversion to such steady co-operation as the situation called for was intensified by extravagant theories touching the so-called sovereignty of each individual citizen. Thus, it was not merely true that the 21 " sovereign states " of Venezuela could repudiate pecuniary obligations or violate treaties with impunity; that any of the states of New Granada could nullify a law of the federal congress; but it has been well said that every man fancied that he was governed by a " higher law " inherent in himself, and " when he declared against the government he was not a traitor, but only a revolutionist, asserting his inherent right as a ' sovereign.' " In Colombia, from 1830 to 1861, there was a revolutionary outbreak on an average every second year; Ecuador generated a revolution and a new constitution every four years; Venezuela was even more distressed by anarchy. Acceptance of a military despot seemed to be the only escape from these intolerable conditions. The revolutionist Mosquera declared himself dictator of the diminished Colombia in 1867. In Venezuela, as a separate country, the first ruler was sometimes called dictator, sometimes president; he was both by turns, and repeatedly. Similar versatility was exemplified in the troubled lands from Mexico to the far south: as a Venezuelan fashion it easily survived its forceful exponent, Paez. Three

short-lived dictatorships were set up in succession just before Crespo entered Caracas in 1892. In Ecuador, the first Flores called a convention (1843) which expressed the temporary desire to entrust him with a magistracy so far above all others that it is superior even to the laws themselves. Again, on 2 April 1882, President Veintemilla seized power as a dictator and held it for a year. In Peru General Bolívar was supreme dictator, both during and after the struggle for independence, his license having been granted by the revolutionary congress of 1824 and confirmed in 1826. In Argentina, Juan Manuel Rosas accepted (7 March 1835) an almost unrestricted dictatorship which was offered to him in the hope that he would restore order. He reigned " in a horrible manner, like a madman " up to the day of his defeat, 3 Feb. 1852. In Brazil, the first national congress convened on 15 Nov. 1890, after the expulsion of Dom Pedro II. One year later (Nov. 1891) President Fonseca proclaimed himself dictator on the strength of an invitation extended by officers of the Brazilian army; but his navy turned its guns on him, and he resigned. In Chile, there have been fewer revolutions, more frequent instances of submission to the mandates of a privileged upper class; yet at the beginning of 1891 President Balmaceda broke with national traditions, to adopt those of the continent while governmental theories were still fermenting: he announced that he was dictator, when he was, in fact, only a party leader; he declared himself to be in favor of martial law, and by superior force he was crushed. (See CHILE.) In the history of Uruguay the word " dictator " is not very prominent. In Costa Rica several of the chief executive officers have been called dictators, with an intention less offensive because the policy of the government is conceded to have been in many respects commendable. For the other republics of Central America and the Antilles, our readers are referred to the articles dealing with those countries, in which special circumstances are explained.

But our friends who possess the splendid central and southern regions in the New World have determined that whatever impedes true progress or conflicts with the stability of republican institutions shall have no place in the third great period of national development, which is at hand.

# Latin-American Civilization

By Francisco J. Yanes
Assistant Director, Pan American Union

THE civilization of peoples cannot always be gauged by set standards. There are varying factors to be taken into consideration and discrepancies to be accounted for in measuring the degree of cultural and industrial progress of a nation. Conditions growing out of racial characteristics, historical necessities, geographical position, custom and habit, on the one hand, and on the other the basic principles upon which different societies have been built, must not be lost sight of in dealing with, or rather, in endeavoring to understand the factors that have led to the progress of a given nation, or aggregate of nations of the same or similar origin.

Latin-American civilization from an Anglo-Saxon point of view may be found wanting in many respects, but the life and happiness of nations, the ideals and hopes of their peoples, their legislation and institutions, are not to be found ready made, but have to be worked out to meet peculiar wants, and in accordance with the racial, mental, moral and material resources and necessities of each.

Latin America must be dealt with as a whole if one wishes to cast a rapid glance at its civilization. Some of the 20 free and independent states which in their aggregate make up Latin America have developed more than others, and a few to a remarkable degree, but whether north or south of the Panama Canal, east or west, on the Atlantic or the Pacific, on the Caribbean or the Gulf of Mexico, the countries of Latin America sprang from the same race — the brave, hardy, adventurous, romantic and warlike Spanish and Portuguese conquerors, who fought their way through unknown territories, whether in quest of "El Dorado" or in warfare against whole nations of Indians, as in the case of Mexico and Peru, where the native Indians had a wonderful civilization of their own.

On the other hand, the men who founded the United States, the Pilgrims who first set foot on this new land of promise, and those who followed in the wake of the first settlers, came to the country already prepared, through years of training, to govern themselves. They came to the friendly shores of the New World

in quest of freedom. They wanted a home in a new land not yet contaminated with the spirit of the Old World. They brought with them their creed, their habits of order and discipline, their experience in self-government, their love of freedom, their respect for the established principles of law. Hence from its inception Anglo-American civilization was built upon solid ground. Its subsequent development — the marvel of the last half of the 19th and of this 20th century — is due to the solidity of their institutions, their steadfastness of purpose, their practical view of life, and a territorial expanse where all the soils, all the wealth, all the climatic conditions of the cold, the temperate and the tropical zone can be found.

The discussion of Latin-American civilization is of vast importance, since it deals with the history and development of 20 republics lying beyond the Mexican border, and covering an aggregate area of about 8,200,000 square miles, with a total population of nearly 80,000,000, of whom 54,000,000 speak the Spanish language, 24,000,000 Portuguese in Brazil, and 2,000,000 French in Haiti. This general division brings us at once to deal, under the same classification, with peoples and civilizations springing from different sources,— Spanish, Portuguese and French. Even among the Spanish-speaking countries there are conditions,— depending on the province of origin of the first Spanish colonizers and settlers, who came mainly from Biscay, Andalusia, Castile, Aragon and Estremadura — which tend to establish slight differences and peculiarities just as the various States of the United States show dissimilarity due to the sources of their population.

Geographically, Latin America begins beyond the Rio Grande, with Mexico, at the southern boundary of which extends what is called Central America, consisting of Guatemala, Honduras, Salvador, Nicaragua, and Costa Rica, the historic five Central American states; Panama, the gateway to the Pacific on the west and to the Caribbean and the Atlantic on the east; South America proper, embracing Venezuela on the Caribbean, Colombia on that sea and partly on the Pacific; Ecuador, Peru and Chile, bordering on the Pacific; Bolivia and Paraguay, inland states in the heart of South America; Argentina, Uruguay and Brazil on the Atlantic; and, lastly, Cuba, Haiti and the Dominican Republic, islands in the Caribbean Sea. Thus Latin America extends from the north temperate zone to Cape Horn, near the Antarctic Ocean, which means that all climatic conditions are found in that enormous area from the cool regions of northern Mexico to the tropical heat of

the torrid zone and again to the cold lands of Patagonia. This is indeed a world of wealth where all the products of the globe can be successfully cultivated, where all races of mankind can live and thrive, because the Mexican and Central American cordilleras, and farther south the mighty Andean range, offer an unbroken chain of lofty peaks, wide valleys, and extensive tablelands, affording all climates and zones, all kinds of soils and minerals, the only limitation to the development of these lands being human endurance. The water supply is plentiful in most parts of Mexico and the Central American republics, and there is nothing which can be compared to the hydrographic areas of northern and central South America, consisting of the Orinoco basin with its 400 affluents, offering a total navigable length of about 4,000 miles; the mighty Amazon, having three times the volume of the Mississippi and navigable for over 2,000 miles, and the network of great rivers emptying into it; the Paraná and the river Plata, with twice the volume of the Mississippi, and a thousand other streams too numerous to mention in detail, but which can be found on any fairly good map, showing a feasible water route from the mouth of the Orinoco in Venezuela to the Amazon and the very heart of South America, and thence to the Paraná and finally down to the river Plata.

It is well known how Columbus discovered this New World which to-day bears the name of America (although the application of that name is quite restricted in this country to the United States) — what hardships that undaunted sailor and his followers had to endure, their sufferings, their hopes, and their faith in some supernatural fate, a trait which is due in part to the influence of Moorish ancestors in Spain through the mingling of both races during the occupation wars which lasted over eight centuries. The discovery of America has a tinge of romance, such as inspires the soul of the adventurer and the buccaneer. It was a romance that began at the Rábida, grew in the presence and with the help of good Queen Isabella, developed into a mad desire for adventure at Palos, and ended with the planting of the Spanish standard on the shores of Guanahani, now called Watling's Island. From here Columbus went to what is to-day called Cuba, thence to Hispaniola — now divided into Haiti and Dominican Republic — and in this latter island founded the first white settlement in the New World. It is not possible to follow Columbus' voyages or his adventures step by step, but the discovery of America is an epic worthy of the mettle of the great explorer and his men.



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The Municipal Theatre at Rio de Janeiro, Brazil



National Theatre, San José, Costa Rica

(Courtesy of the Pan American Union)



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The Opera House in Buenos Aires, Argentina

And so the civilization of what is called Latin America began with the first Spanish settlement, the first Indian blood shed by the greed of the white conqueror, and the first attempt to Christianize the inhabitants of the new-found land. The inevitable features of conquest — war, treachery, destruction, fire, sword, deeds of valor but little known, and endurance almost superhuman — marked along the trail of the discoverers the birth and first steps of the nations of the New World. And in the midst of this turmoil, bravely battling against unknown odds, the Spanish missionary fathers worked unceasingly, founding hamlets and towns, thus planting in the wilderness the seeds of many a large city to-day, building their temples of worship, going from place to place struggling with disease and hunger, teaching the Indians the Spanish language and with it their religious faith, and laying the foundation of what is known to-day as Latin America.

The second stage of Latin-American civilization began when the crown of Spain finally took an active interest in its new possessions and men of a better class than the soldiery which landed with the discoverers and conquerors began to come to the New World, bringing their wives and daughters, and surrounding themselves with whatever comforts could be had in their new home. They were in many cases scions of noble families, who came either as viceroys, governors, or in some other administrative capacity, or as "oidores," or judges, and men of letters in general. There came also learned monks, and among these, philosophers, poets, musicians, painters, and skilled artisans. Hence some of the oldest descriptions and chronicles of Latin America are in verse or in choice prose, either in Spanish or in Latin, and we find in some of the oldest cities in Spanish America wonderful examples of wood carving, either in churches or in old houses, beautiful specimens of the gold and silversmith's art, some fine paintings, and unexcelled samples of the art of illuminating books, particularly missals.

The scholars, either members of the religious orders or laymen, began to gather books imported from Europe, and so our libraries were started, mainly in the convents. With this feature of civilization the necessity of educating the children of the Spaniards and the Indians became more pressing, and private schools and seminaries were established, as a first step toward the foundation of universities. Both in Mexico and in Peru schools were founded by order of the Crown of Spain for the education of the Indians, where they learned not only reading and writing, but the manual arts as well.

Latin Americans point with natural pride to the fact that the first university founded in the New World was that of Santo Tomás de Aquino at Santo Domingo, in 1538. This university is no longer in existence, but there still exists that of San Marcos at Lima, Peru, founded in 1551; the University of Mexico, established in 1553 and refounded in 1910; the University of Córdoba, in Argentina, dating from 1613; that of Sucre in Bolivia, founded in 1623, or 13 years before Harvard, which dates from 1636, and that of Cuzco, in Peru, established in 1692, or eight years earlier than Yale, which was founded in 1701. The University of Caracas, in Venezuela, dates from 1721, and that of Habana, Cuba, from 1728, the other universities founded before the 19th century being that of Santiago, Chile, in 1743, and the University of Quito, Ecuador, in 1787.

The great agent of civilization and progress, the printing press, has been known in Latin America since 1536, when the first printing outfit was introduced into Mexico and the first book printed in the New World, a plea of Father Las Casas for a better life. Cartagena, Colombia, is said to have been the second city of America to have a printing press, in 1560 or 1562, but Peru seems to hold the record for the first book printed in South America, about 1584, and La Paz, Bolivia, had a printing establishment about 1610. There were also a press and other printing paraphernalia at the Jesuit missions of Paraguay about the first decade of the 17th century. The first work in Bogotá was printed about 1739; Ecuador printed its first book in 1760, and Venezuela in 1764, while the earliest production of the Chilean press bears the date of 1776; and there was a printing outfit in Córdoba, Argentina, in 1767. With the foundation of universities and schools and more frequent communication with Spain and other European countries of Latin origin, and the printing of books and newspapers in the New World, the desire for learning was developed and a new field was opened to intellectual culture.

The dissatisfaction of the colonies with the exactions and abuses of the viceroys, captains-general and other officials representing the crown of Spain, jealousies between the "creoles," or children of Spanish parents born in America, and the "peninsulars," or native Spaniards, commercial preference and social distinctions, and other petty annoyances born of the arrogance of the Spaniards on the one hand, and the proud nature of the creoles on the other, were the smouldering embers which, fanned by the success of the American Revolution and the storm of the French Revolution, set on fire the Spanish colonies at the end of the 18th

and the beginning of the 19th century. The majority of the Spanish-American countries attained their independence between 1804 and 1825, and their struggles for freedom, while encouraged by the example of the United States, were inspired by French ideals. The heroes of the bloody but romantic French Revolution, their fiery speeches and fearlessness, their proclamation of the republic and the rights of man; the echoes of the Boston Tea Party, the exploits of the spirit of '76, the commanding and serene figure of Washington, the adoption of the American Constitution, the utterances of the grave thinkers and inspired orators of the revolutionary period — all these dazzling examples of patriotism appealed to the Spanish-American colonists, and one by one the colonies began their fight for independence. The executions and ignominy which were the lot of the first patriots who forfeited their lives for the cause of independence, instead of discouraging the leaders, made them more aggressive, and they resolved to gain the day at all hazards.

On the most brilliant pages of the history of Latin America are written, among the names of other heroes, those of Miranda of Venezuela, the precursor of South American independence; Bolivar, who has been called the Washington of South America, a born leader, the liberator and father of Venezuela, his native country, and of Colombia, Ecuador, Peru and Bolivia; Sucre, also a Venezuelan, more like Washington than was Bolivar; San Martin, the great general of Argentina, the brave and heroic liberator of the southern half of South America; Artigas of Uruguay, a man of sterling qualities; O'Higgins, the great Chilean hero; Tiradentes, the forerunner of Brazilian independence; Morelos and Hidalgo in Mexico, both Catholic priests, and both martyrs to the cause of independence; and scores of others from each country whose names would be meaningless except to those well acquainted with the history of South America.

Once free from colonial bondage, the new republics, whose political constitutions in the main are based on that of the United States, had to deal with fresh problems arising from changed conditions. The new political entities commenced their independent life heavily handicapped, on the one hand by their economic condition after a period of protracted wars, and on the other hand by a scarcity of population. The unbounded productiveness of Latin America, coupled with the modest wants of the masses, has been the main cause of the slow development of most of these countries as manufacturing centres, their chief means of support being agricultural and allied industries, and mining. The evolution out

of all this chaos has been more rapid in some countries than in others, due to special conditions, among which the principal ones are geographic and topographic position, and predominance of the white man.

The leading classes, owners of black slaves and landlords to the Indian tenantry, lived for the most part in relative ease after the war of independence. Those who did not seek in the army a field for their activities or inclinations devoted themselves to intellectual and scientific pursuits, either in civil life or in the service of the church. Some went abroad, to France or Spain preferably, to acquire a general education or to perfect that received at home and to see the world, and on their return bringing new ideas which were eventually adopted and modified as necessity demanded. With the progress of the 19th century Latin America also advanced.

Intellectually, the Latin-Americans are anything but the inferiors of the Anglo Americans. The literature of Latin America is as rich and valuable as that of any country, yet it is hardly known — not to say entirely unknown — in the United States except by a handful of men who have devoted their time to the study of the Spanish language. It is only during the last few years that a desire to learn Spanish has made itself felt in the United States, and it is most gratifying to note the number of persons now able to read and understand the language and their growing familiarity with things Latin-American. On the other hand, the study of modern languages is compulsory in all of the universities and colleges of Latin America, and absolutely necessary to obtain certain academic degrees. French was for a long time the language chosen by the majority of the students, hence the influence of French literature and French thought in Latin America. German was taken up by many, more as a commercial tongue than otherwise. English was preferred by others, rather as an accomplishment than as a language of immediate practical use, but now it has taken, in many cases, the place of German. These two languages have followed the trend of trade, but English is becoming more useful every day in view of the increased relations of Latin America with the United States, in all spheres of human activity.

The problem of education has always commanded the earnest attention of all the Latin-American governments, to the extent of having made primary education not only free but compulsory. So far as higher education is concerned — that is, all grades above primary — there are institutions, either public or private, or both,

for secondary and superior education, normal schools, schools of mines, agricultural and manual training, technological institutes, colleges, universities, conservatories of music, academies of painting and sculpture, national or public libraries, museums, etc.— in short, all kinds of institutions devoted to the moral and intellectual uplift of the people.

In each of the Latin-American countries there is a system of scholarships which serves as a practical means of promoting interest in education. This system provides for supporting abroad for a certain length of time such students and graduates as have won honors, who are sent to Europe and in some cases to the United States, to perfect their education and bring home the latest and most approved methods. Since the present war began students come to the United States who formerly would have gone to Europe to take a post-graduate course in some science or profession. Others are in this country studying and investigating school methods and appliances. At present there are over 1,300 such students in the United States.

With better means of communication and a desire to expand their trade with Latin America, United States merchants and travelers are visiting intelligently the Latin-American countries, and men of science and learning have, during the last few years, turned their eyes toward that continent, bringing to light the wonders of past ages buried by the sands of Time, and doing justice to a civilization then little known, and only by a few. No better proof of the fact that Latin-American civilization is worthy of note could be had than the desire to exchange professors and students between certain universities of the United States and those of the leading South American countries, as well as the acquisition, generally by purchase, of important private libraries of Latin America, containing invaluable works dealing with the history, progress, and higher development of those countries.

Latin-Americans have done much toward the progress of the world both intellectually and materially. Civilization may be divided into two great branches from which others spring: development of the intellectual forces of mankind, and development of the material resources for the benefit of society. Under the first head — as has been shown in the preceding paragraphs — there are found educational institutions to train and perfect the mind, which have existed in Latin America for centuries, and the result of this training has been great jurists, historians, orators, physicians, painters, sculptors, poets, musicians, playwrights, and

others too numerous to mention when dealing with 20 countries, but whose works might fill a great library. A passing mention has already been made of the standing of Latin-American writers. There are painters and sculptors of renown, whose works have been admired, rewarded and commended in the leading art centres of the world. In all these countries there are art schools from which the students go preferably to Italy or France, most frequently pensioned by the government, to perfect themselves. There are musicians wedded to their art and a credit to their country and themselves; and composers, singers and players educated in their own conservatories or schools. There are theatres and opera houses not surpassed by any others in the United States or Europe, and the governments of many, if not all, of the Latin-American countries contribute to the musical education of the people by subsidizing opera troupes every season or so, paying large sums to obtain the best singers. Many a celebrity who has come to New York has commenced his career in Latin America.

There is another phase of Latin-American civilization showing in an unquestionable manner a natural tendency toward the establishment of higher ideals — those ideals that are to-day being proclaimed by men of good will of all nations. I refer to arbitration, recourse to which is the highest form of culture among peoples. Arbitration is not new with the Latin-American peoples. It is one of the basic principles of their social structure, since it rests on the civil law of Rome, which provides for arbitration as one of the ordinary and usual means of settling differences between man and man. The principle of world arbitration was first proclaimed by General Simón Bolívar, who was the originator of the idea of holding the first Congress of Nations of America at Panama in 1826, for the purpose, among others, of adopting arbitration as a principle of American — that is to say, Pan American — policy.

In recent years Latin America has had recourse to arbitration and direct negotiations partaking often of the nature of arbitration, more frequently than all the rest of the world. Latin-American wars have been civil wars for a political principle, and these mainly in countries where the military element predominates. They have never engaged in wars of conquest. In their international difficulties, arbitration has always been the keynote of negotiations. It is a remarkable fact that in the history of the Latin-American republics, since they became independent from the mother country over 100 years ago, they have had among themselves only two international wars, and these could indeed be classed as national, since they were fought among members of

their own family of nations. But these wars were not fought for territorial expansion, nor in the spirit of conquest, although territory may have been gained as an indemnity. These are the Paraguayan war against Brazil, Uruguay and Argentina, 1865–70, and the war of Chile against Bolivia and Peru, 1879–84. On the other hand, who, looking at the map of Europe before this war, would recognize it as the same Europe of half a century ago? With one or two exceptions — the Iberian and Scandinavian peninsulas and the British Isles — there is not a single country that has not been remade at the cost of numberless lives.

All boundary disputes — and they have been many — have been or are being settled by arbitration. Could any better proof be offered of the advancement of peoples who, while springing directly from a race of warriors, are not afraid to work towards the ends of peace?

Another proof of this spirit of progress is the maintenance in the city of Washington, by all the countries of the American hemisphere, of a unique organization called the Pan American Union, the living embodiment of the idea which created the International Union of American Republics as a result of the first Pan American Conference held in Washington in 1889–90 at the invitation of that great American statesman, James G. Blaine. The Pan American Union represents the spirit of progress, the desire for a better understanding, the necessity for stronger ties of friendship, felt among the republics of the three Americas, by making them known to one another, by bringing to the attention of the people of the United States the opportunities offered by the Latin-American countries, their civilization, their onward march towards prosperity, united in a single purpose of material and moral advancement.

There is another aspect of the civilization of the Latin-American Republics which deserves more than passing attention. It is their political life as members of the Pan American fraternity of independent nations. Their first step towards higher ideals was their declaration of independence and their assumption of the duties and exercises of the rights of sovereign states. The transition from colonial dependencies to self-governing nations was fraught with difficulties unknown to the citizens of the original thirteen states of the North American Union, resulting from different conditions, due in the main to the spirit that inspired their complete emancipation. The original thirteen states separated from England principally for practical reasons, while the Spanish-American countries had to contend with an economic as well as a political problem.

After a period of evolution — or of successive revolutions, as some would say — during which the several antagonistic interests were undergoing a process of amalgamation, or better still, clarification, there now exist, in the majority of Latin-American countries, stable governments whose sole aim is to maintain above reproach the moral as well as the economic credit of their respective nations, so as to attract foreign capital and energy, which will stimulate the development of home industries, and insure peace, prosperity and happiness to its citizens. Some Latin-American republics have been less fortunate, but every disturbance, all civil strife, should be construed, in fairness, as a misdirected effort towards the attainment of a goal dreamed of and desired by all. Public education, foreign commerce, improved means of communication, greater development of the natural wealth of those countries, are factors which have contributed and are constantly contributing to the establishment of a peaceful era which will eventually become normal and stable.

As to the material phase of Latin-American civilization, communication with the other countries of the world until the beginning of the present European War was represented by over 50 steamship lines plying between European ports and those of Latin America, and about 25 lines running from the United States to the Atlantic, Caribbean and west coast ports of Latin America. The combined railway mileage from Mexico down to Chile and Argentina, including the island countries of Cuba, Haiti and the Dominican Republic, is estimated at over 68,000 miles, Argentina leading with over 22,000 miles; next comes Mexico with over 15,000 miles; Brazil follows with about 14,600 miles; Chile, nearly 6,000; Cuba, nearly 2,500, and the other republics in lesser proportion. There is not one single country, however, that is not included in this total mileage. It may seem strange that in an area of about 8,200,000 square miles there should be only 68,000 miles of railway, but if one stops a moment to consider the enormous barrier extending along the west coast of South America, formed by the mighty range of the Andes mountains, which made direct communication between the cities of the Atlantic and Pacific coasts very difficult, and the scarcity of population which creates demands and makes traffic profitable, one will understand why the railways of Latin America have not advanced faster. But even under these circumstances, not a day passes but some work is done towards the extension of that railway mileage.

Another phase of civilization and progress is the foreign commerce of a country. The progress made by Latin America in its



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The Capitol Building and Monument of the Congress in Buenos Aires, Argentina, at Time of Celebration of Independence Day, 9 July



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A Portion of the Bay of Rio de Janeiro by Night, Brazil

commercial relations with the world at large and the United States, especially, shows that there is a great consumption of all such articles as are considered necessary to civilization. Latin America is not a manufacturing continent; it mainly produces for export agricultural products such as sugar, coffee, rubber, tobacco, cacao or cocoa, cotton, etc., hides and other raw materials, mining products such as silver, gold, tin, copper, iron, bismuth, saltpeter, etc., and a few gems. Its main imports are machinery of all kinds, hardware, cotton and other fabrics, foodstuffs, carriages and automobiles, railway material, electrical appliances, and other similar products of industry necessary to the cultivation of the land, the improvement of roads and cities, and the comfort of the inhabitants.

There is not a city of any importance in Latin America where either artificial illuminating gas or electric light is unknown. Telegraph and telephone wires stretch all over Latin America, uniting cities and towns, over the wilds and across the mountains, bridging mighty rivers, connecting neighboring countries and linking their shores with the rest of the civilized world. Not an event of any importance takes place in Europe, Asia, Africa, or the United States which the submarine cable does not bring to the Latin-American press, to be made public either in the form of bulletins or in "extras," according to the importance of the event, while nearly every Latin-American country has its wireless telegraph system. Electric cars are fast replacing the older and slower methods of transportation within the cities and extending their usefulness to carrying passengers to suburban villas, small towns or country places of amusement, and Buenos Aires, the largest Latin-American capital, has a subway in operation.

A charge frequently made against Latin Americans is that they are a race of dreamers. There is some truth in this. Latin Americans have inherited from their forefathers the love of the beautiful and the grand; the facility for expression and the vivid imagination of the Latin race; the sonorous, majestic Spanish, the flexible, musical Portuguese, and French, the language of art; and a responsive chord to all that thrills, be it color, harmony, or mental imagery. They have also inherited from those ancestors their varying moods, their noble traits and their shortcomings, both of which have been preserved, and in certain cases improved, under the influence of environment, the majestic mountains, primeval forests, ever blooming tropical flowers, birds of sweetest songs and wonderful plumage; under magnificent skies and the inspiration drawn from other poets and writers, foreign and native.

Much more might be said to show the constant endeavor of Latin America to co-operate with its best efforts to the civilization of the world. It has contributed readily according to its Latin standards, and from the day of its independence and the establishment of republican institutions, Latin America has recognized the rights of man, abolished slavery, fostered education, developed its commerce and increased traveling facilities and means of communication with the outer world. It has contributed to the best of its ability to the sum total of human betterment, and the day cannot be far off when full justice will be done to the efforts of the countries south of the United States, where live a people intelligent, progressive, proud of their history and their own efforts, and ready to extend a friendly hand and a sincere welcome to those who are willing to understand them, and aid them on their road to progress.



Congress Hall, Santiago, Chile

# Education in Latin America

By Edgar Ewing Brandon
Vice President and Dean of Miami University

## General and Historical

EDUCATION in Latin America is dominated by two forces. One is historical and concerns higher and professional studies. The Spanish colonists established universities soon after their occupation of the country. Santo Domingo, 1538; Lima, 1551; Mexico, 1553; Bogotá, 1572, Córdoba in Argentina, 1613; Chuquisaca (now Sucre) in Bolivia, 1623. Six others were founded by the end of the colonial period. They had charters from the King of Spain and from the Pope, and enjoyed the monopoly of granting degrees. Preparation was obtained only in church schools and by private tutoring. The universities themselves were conducted by the religious orders. They were organized and conducted solely in the interest of the colonial aristocracy. To-day they are national and theoretically open to all classes with small tuition fees and very generally include engineering schools. However, their traditional characteristics persist. They overemphasize theory, culture, dialectics, and make their appeal to the upper and leisure class. They exercise little or no direct influence on elementary instruction. On the other hand, they dominate the secondary schools, which too often are but feeders to the universities, imitating their methods, reflecting their traditional spirit, and are likewise limited in patronage almost exclusively to the higher classes.

The other force in Latin American education, the movement for elementary education, is recent and comes from abroad. Before 1860 no state had any well-defined system of elementary instruction. During the presidency of Sarmiento (1868–1874) Argentina inaugurated a determined movement for universal elementary instruction. Sarmiento was influenced by the example of the United States. About the same time Chile undertook seriously the national organization of elementary schools. France has been rightly called the intellectual mother of Latin America, and when the French Republic from 1870 on strove to banish illiteracy from France, its influence was not without great effect in Spanish

America. All the states soon put upon their statute books laws for compulsory primary education. The reform has not progressed uniformly. Argentina, Chile, and Uruguay in South America, and Costa Rica in Central America have made the greatest progress. Whereas in these states 50 years ago illiteracy was perhaps more than 90 per cent, it is now less than 50 and rapidly decreasing. In some of the other states it is still 90 per cent. Cuba has made commendable progress in elementary education since its independence. The least progress has been made in those countries where the Indian and Mestizo population is the largest, or where strong clerical influence hampers the national and secular school organization. In such countries school statistics are often misleading. Many schools exist only on paper, in others the terms are short, average attendance is low, and the law of compulsory attendance is not enforced.

### Primary Education

The standard period of the elementary school is six years, but even in a country like Argentina the full length is observed only in cities and larger towns. The villages and countryside maintain curricula of but two, three, or sometimes four years. The school year approximates nine months. The subjects of instruction are reading, writing, arithmetic, drawing, geography, and national history. As far as the mere ability to read is concerned, the short period of elementary schooling which obtains in so many localities is in part compensated for by the phonetic spelling of Spanish, and as concerns simple calculation by the use of the metric system. Genuine intellectual development, however, suffers severely from the short term of schooling for the average child. Elementary teachers are as a rule underpaid, and are seldom from the upper classes. The sharp class distinctions which so generally prevail in Latin America, especially in countries with a large mestizo population, are nowhere more noticeable than in the schools. Except in Argentina, and in a lesser degree in Uruguay and Costa Rica, children of the upper classes of society seldom attend the elementary public schools. They receive their primary education either through private tutoring, or in private select schools, or in primary grades attached to the state secondary schools. This practice tends to foster and accentuate class distinction and makes of the public elementary instruction purely folk schools—a condition of affairs much to be regretted in a democracy.



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University at Montevideo, Uruguay

In a few countries there is a surprisingly strong tendency toward co-education in the elementary schools, but in general the policy is segregation of the sexes. In cities and larger towns segregation is practiced in all grades. In smaller communities boys and girls are taught together in the first two or three grades and segregated in the higher grades. In rural and small village schools where the range of instruction is limited (from two to four grades) the classes are usually open to both sexes.

Except in the federated republics (Argentina, Brazil, Mexico, and Venezuela) the primary school system is thoroughly centralized and directed even in the smallest details from the national capital. The funds are appropriated from the national treasury, the administration is vested in the council of elementary education under the minister of public instruction. This council fixes the curriculum and methods, provides the building and equipment, establishes qualifications of teachers, assigns teachers to their posts, and fixes their salaries Frequently there is a local board of education chosen by the municipality or named by the governor of the province. Its authority is, however, carefully limited. Its principal functions are to care for the material equipment (building, etc.), to recommend suitable teachers, and when the teacher has been appointed, to see that he performs his assigned duties and maintains a proper scholastic, moral, and civic attitude. Sometimes the local board is expected to provide from local funds the building and equipment. Great numbers of primary schools are conducted in rented buildings.

In the federated republics the state systems are a copy of the national system of the centralized republics. The tendency, therefore, is toward centralization over a larger or smaller extent of territory and close uniformity. Such a system has undoubted advantages and was the only one that could cope with the difficulties that confronted popular education in Latin America. In Argentina the national government has recently asserted the right to establish, maintain, and control national elementary schools in those states where the local authorities do not provide an adequate system. In some countries, especially in Mexico, the municipalities establish and maintain elementary schools irrespective of the state system. These schools are usually better equipped and conducted than the state schools since the very fact of their establishment is an indication that state-wide interest in popular education is deficient or non-existent.

### Normal Schools

Those countries which have done most for primary education lay great stress on their normal high schools, which have come to be the secondary schools of the common people, as well as training schools for primary teachers. These schools were originally an importation and came with the impetus for universal and obligatory primary instruction. Many of the first masters were brought from Europe and the United States, and the schools were organized on the model of the French primary normal school and the original independent normal school of the United States. The requirement for entrance is completion of the elementary school course (six years) or its equivalent. The curriculum covers four, five, and six years. The studies embrace what is usually found in grades 7 to 12 of American junior and regular high schools with the addition of pedagogy, observation of teaching, and practice teaching in the annexed model school. Many normals are boarding schools. Whether boarding or day schools the usual practice is for the state to maintain the scholars, lodging, feeding, and clothing them in the boarding schools, or paying them a commutation in the day schools. In return the scholars enlist in the teaching service of the state for a certain number of years. In case they do not serve out their enlistment, they agree to reimburse the government. A bond is given to insure the observance of the contract. Unfortunately, in many countries this contract is not always observed. The normal school students come from the lower middle class, if indeed one can speak of a middle class in the average Latin American society, and their advancement into the higher grades of instruction, even with industry and ability, is difficult and rare. Their limited education is a handicap, and the line of demarcation between the normal and elementary schools on one hand and the secondary and university education on the other is so sharply drawn that it is next to impossible to pass from the one to the other. Chile and Argentina maintain higher normal schools of college rank for the training of primary normal school instructors, and, to a limited extent, for the training of regular high school teachers, but the latter are more usually recruited from the universities and lack distinct pedagogical preparation. The boarding normal schools very naturally are for one sex or the other, but in the day schools co-education is surprisingly common. A model school is always attached to a normal school, and much stress is laid upon practice teaching, although much more time is devoted to observation than to actual practice.

## Secondary Education

The standard period of the regular secondary schools (*Liceos*) is six years, but in some countries it is less. These schools are usually good of their type even in countries where primary education has been neglected. Their clientele is largely from the upper classes. Church and private schools of this grade are numerous, but the state retains (as in France) the right of examination and power to grant the degree (Bachelor of Humanities) at the end of the course. The curriculum is, as a rule, uniform and comprises the Spanish language and literature, general and national history, mathematics, physics, chemistry, and biology (usually without individual laboratory practice), French, English, elementary philosophy, and economics. Latin is seldom included. The uniform curriculum in the secondary schools is due to their close administrative relation with the universities. They are still regarded as mere preparatory schools. When commercial and industrial education was introduced, it seemed more politic to divorce it wholly from the traditional secondary schools, as had been done with the primary normal training. Hence almost everywhere commercial and industrial schools are separate institutions although state supported. When they are combined with the regular high school, it is for economic, not pedagogical or administrative reasons. Notwithstanding the relative excellence of the regular high school, it suffers from the lack of trained and professional teachers. Much of the instruction is given by university graduates who divide their time between a number of schools or who carry on a profession (law, medicine, pharmacy, journalism, etc.) at the same time. Their teaching is necessarily often a secondary consideration, and their attendance irregular. They frequently lack ability really to teach. The recitation is apt to become a lecture as in the university.

## Commercial Education

The commercial school in many Latin American countries occupies a position of high favor, receives liberal state support and opens an avenue to young people who could not hope to profit materially by the regular high school course. It is usually a combination of upper primary and junior high school. The curriculum comprises the traditional subjects of the fourth, fifth, and sixth grades of the elementary school with a commercial orientation of arithmetic, geography, and composition, while introducing the specific commercial branches, typewriting, stenography, and accounting. Much stress is laid upon modern foreign languages,

especially English and French. These schools often receive important gifts and even regular subsidies from public spirited citizens and commercial organizations. Evening as well as day classes are the rule in these institutions, and some have evening classes only. Unfortunately relatively few pupils complete the entire curriculum. They leave the school after acquiring the mere rudiments of a commercial education to accept modest employment in business.

### Higher and Professional Education

The universities are professional schools almost exclusively. A very few have faculties of Letters and pure Science. The standard university contains faculties of law, medicine, engineering, commerce, and agriculture; but many have only two or three faculties. Medical departments include schools of pharmacy, dentistry, and midwifery. The average course of study in law covers six years; in medicine six; in engineering and agriculture, four; in commerce, four; in pharmacy and dentistry, three.

The enrollment in Latin American universities is surprisingly large. Buenos Aires has approximately 6,000 (exclusive of the attached preparatory high school); Santiago 2,000, Lima 1,100, Montevideo 900 exclusive of the agricultural college, a separate institution, and others in proportion to population and degree of general culture. The explanation is found in the fact that although the institutions are merely groups of professional schools, they also fill the place occupied by the Liberal Arts College in the United States, and many students attend with no expectation of following the profession they are studying. They take a university course for general culture or for the sake of the doctor's degree which is conferred upon graduation. Not nearly half the graduates in law and not more than half in medicine practice the profession. The law course especially is regarded as a liberal education, being less technical than in an American law school and including at least the rudiments of all the social sciences, psychology, economics, sociology, constitutional history, as well as the philosophy and history of law, and international law. It is in fact a study of jurisprudence in the wide sense, and leads to the degree of doctor of jurisprudence. The medical college with its adjunct departments usually has the largest enrollment. The curriculum is long and full. Not as much stress is laid upon chemistry and the other basic sciences of medicine as there should be, but the clinical instruction and practice is excellent. Agriculture, the last of the faculties to be introduced, is much encouraged by the governments and receives generous sup-



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port. The enrollment, however, is limited. All the states have one or more schools of agriculture either as part of a university or existing as a separate institution.

### Organization of Universities

Practically all institutions of higher and professional instruction in Latin America are state supported and state controlled. In a few centres there are church colleges of law, engineering, etc., but never of medicine. These colleges do not confer the degree of the profession. That privilege is reserved for the state university. Most state universities are autonomous; i. e., they are governed directly by the faculty, which is a self perpetuating corporation. However, the election to a vacant chair must be confirmed by the President of the Republic through the Minister of Public Instruction. The common practice is for the faculty to nominate three candidates for a vacancy of whom the minister selects one. The state exercises in this way a control over the personnel, but usually the faculty indicates its choice of the candidates, and the minister rarely rejects the nomination. The universities have thus acquired almost everywhere complete independence. Their revenue, of course, depends largely on the will of the national (or provincial) legislature. University professors, like those of the secondary schools in Latin America, are rarely teachers by profession. The law is taught by practicing lawyers and judges in office; medicine, by practicing physicians. This custom has the same disadvantages though not so marked as in the Liceos. A professor usually teaches but one course which consists of three lectures or recitations per week. If a course runs through two years, one man will teach the first year, another the second. This custom accounts for the large number of professors in an institution in proportion to the students, the ratio being often in the smaller universities as high as one to five. The different colleges of a university are usually scattered, the college of law being located in one part of the city, the college of medicine in another, etc. Each has its own library and laboratories. This necessitates a duplication of material and often a duplication of instruction since matriculation in the university is directly from the high school, and certain basic subjects are taught in two or more colleges. Especially is this true of the basic sciences of medicine, engineering, and agriculture.

The universities are very generally open to both sexes, and women are enrolled in considerable numbers in the colleges of medicine, pharmacy, dentistry, education, and architecture.

So called practical schools of agriculture and industrial arts

are very common and are supported or subsidized by the state. They are of lower rank than the university professional schools and are for the training of overseers, foremen, artisans, and farmers. The agricultural states have featured the practical agricultural school in recent years. Argentina has a score of them of different grade. Some are designed to emphasize the type of agriculture in the region where they are located, fruit growing, cattle raising, sugar industry, etc.; others have a general curriculum. They admit boys with the mere fundamentals of instruction from the third or fourth grade, and continue their common school instruction, adding the professional branches. The curriculum extends over three or four years. Many of these institutions are boarding schools. The system is very similar in other states. Chile maintains them in the agricultural region; Cuba has one in each of the six provinces. In Brazil and Mexico it is the concern of the individual states, the national government concerning itself only with the higher professional schools.

### Industrial Education

The practical industrial schools (Escuelas de artes y oficios) have the same status and occupy a corresponding position in the industrial field. They are supposed to reduce theory to the minimum and bend their energies to the practical. This is especially difficult, however, in Latin America since the tradition in education there for centuries has been in favor of theory, and the racial mind is forcibly bent in that direction. In the most enterprising countries there are trade schools for girls as well as for boys. Chile, for example, has a great number for girls, one or more in almost every important town. The introduction of industrial and agricultural education into the regular primary schools is uncommon. The tendency is to make of them separate departments of instruction. Both at Buenos Aires and at Santiago, Chile, there is a school of industrial arts which occupies a middle ground between the ordinary elementary trades school and the engineering college. They are well equipped and train a high type of artisan and practical engineer.

Many elementary trade schools are conducted by various orders of the Roman Catholic Church. The Salesian brothers make a specialty of this type of education. Some of these schools combine elementary agricultural training with schooling in the industrial arts. They usually receive a subsidy from the local, provincial or national treasury. The pupils come from very poor families or are orphans.

### Theological Education

Preparation for the Roman Catholic priesthood is given in church schools which are wholly removed from governmental supervision. At least one such school is maintained in each diocese from whence the more gifted boys are sent to the arch-diocesan school in the capital for advanced instruction and training. The lesser priesthood may be recruited directly from the diocesan school. These institutions necessarily have a different curriculum from that of the state and state-supervised elementary and secondary schools, not only in the emphasis laid upon strictly religious instruction, but also in the inclusion of Latin which is seldom found in the Spanish-American curriculum; in fact, in many states the study of Latin in the state and state-inspected schools is forbidden by law.

### Education in Brazil

In Brazil little was done for popular education before the advent of the Republic (1889). It is delegated wholly to the individual states. Some, notably Sao Paulo and other southern states, have made commendable progress; others have done very little. The type of instruction is much the same as in Spanish America. The same is true of secondary education. Brazil has two national schools of law (São Paulo and Recife) and two of medicine (Rio de Janeiro and São Salvador) but since 1911 their graduates have no rights not enjoyed by graduates of other standard institutions. The tendency now is to establish universities; i. e., groups of professional schools, in all the state capitals.

### Conclusion

Popular education is retarded in Latin America by various causes of which some are operative in some countries, others in others, and some in all. They may be summarized as follows: (1) apathy of Indian and Mestizo population; (2) lack of trained teachers; (3) antagonism of church to secular schools; (4) greater relative importance and appropriations given to university and secondary instruction; (5) want of proper buildings, textbooks, and equipment; (6) sharply accentuated class distinctions; (7) traditional curricula and inefficient methods of instruction.

Notwithstanding all the discouraging circumstances, there is everywhere a universal ambition to overcome illiteracy, a realization that an educated citizenry is necessary for political, economic, and social progress, a willingness to learn modern educational methods, and an ever increasing adaptability of instruction to local and racial needs.

# Labor, Its Problems and Their Solution in Latin America

By T. Esquivel Obregón
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THE labor problem in Europe presents a different point of view from that of the Latin American countries. In the former the question is to know whether by means of new devices and discoveries of natural science as well as by new suggestions of political economy and sociology it is possible to meet the growing demands of the workers, while in Latin America it consists in the solution of an opposite question, viz., is the Indian able to adapt himself to modern civilization and to meet its growing demand upon him for increased and intelligent effort and ambition?

Viewing the question from this latter point it is very hard, if not impossible to give an answer, because although we are accustomed to think of the Indians as a unique race, the fact is that there are many native races in America which have only two features in common — the red-bronze color of their complexion and their straight black hair. There are races which can enter into competition with the stronger peoples of the world, such sound, energetic, and intelligent races as the Araucanian in Chile or the Maya in Yucatan; some of whom in the central plateau of Mexico have adopted the manners and customs of the whites, so that it is hard to trace the difference between the two races, physical features aside. But at the same time there are other Indian races that are neither constitutionally nor temperamentally fitted for the strenuous and complex methods of modern industrial life.

In all countries where nature produces lavishly, the labor problem is difficult to solve, simply because life can be supported with a minimum of effort, the people are not mutually dependent and therefore see little reason for co-operation, while their confidence in the natural resources about them tends to improvidence.

One fact, however, is indisputable, the native races of Latin America, in spite of all the hardships imposed upon them, to fit them for the work of modern society, have survived and are an important factor in those countries. The complexity of the

problem may be understood when we reduce it to this alternative: viz., is the Indian to be left undisturbed in his natural tendency to laziness, and to depend for his advancement upon methods which have proved adequate among peoples of more energetic character who live in countries the climate of which develops co-operation and thrift? Or else must we use all means which experience and fairness may suggest in order to educate the Indians, to make them fit for modern civilization, without regard to details as to method, bearing in mind only the general purpose of making them capable of survival in the modern intensified struggle of life? Without hesitation we should advise this latter policy.

At present the natives bear all the burden of the toil of agriculture, and a good part of that of industry.

Taken as a whole, however, agriculture in Latin America has not been so successful as it ought to be, considering the richness of the soil and the good climatic conditions. This is due, not to a lack of intelligence on the part of some of the native races, but to a lack of an appropriate education tending to develop in them a sense of responsibility, thus making them self-supporting citizens, realizing the benefits of co-operation in production.

A fact which may produce important and far reaching results in the life of the natives of Latin America is that, before the European War came to complicate all the economic conditions of the world, the cost of living was higher everywhere else, and the necessities of mankind were urging the natives of America to get up and work hard or yield their place to more efficient workers; governments were apprehensive on the subject, and inquiries were carried on in many of the countries in order to find out the reasons for the high cost of living, which may determine the labor conditions of the workers in Latin America.

At the bottom, the cause of the phenomenal rise in the cost of living among civilized peoples is that the increase in the population of the world is greater in proportion than the increase of the food supply. Many countries have found their productive area insufficient for the support of their people; they looked abroad for new areas, found them in America, and have sent their surplus population there. Hence, competition with the stronger races *is knocking at the door of the new continent* and it is absolutely necessary to prepare the aborigines to meet this competition or else leave them in their present disorganized state to suffer the domination of the stronger and more vigorous races from over sea.

In Argentina conditions already resemble closely those of the European countries, because the aborigines have given way to the immigrants. This fact accounts in great part for the intense commercial and agricultural life of Argentina, notwithstanding that in the number of inhabitants it does not compare with Brazil or Mexico.

Five nations contribute principally to immigration in Argentina, as is shown by the following statement, which presents at the same time the emigration by nationality and the yearly balance that is left in the country:

| | | Immigration | Emigration | Balance |
|---|---|---|---|---|
| Year 1909 | Spaniards | 26,481 | 14,702 | 11,779 |
| | Italians | 24,249 | 27,943 | 3,694 |
| | Russians | 6,520 | 1,824 | 4,696 |
| | Syrians | 2,551 | 730 | 1,821 |
| | Portuguese | 554 | 154 | 400 |
| Year 1910 | Spaniards | 33,937 | 13,578 | 20,359 |
| | Italians | 26,065 | 23,210 | 2,855 |
| | Russians | 6,748 | 1,690 | 5,058 |
| | Syrians | 3,061 | 976 | 2,085 |
| | Portuguese | 870 | 204 | 666 |

Italian immigration, even though it follows closely in number that of the Spaniards, is almost offset by the emigration, and sometimes the balance is negative, which shows that the Italians do not find in Argentina sufficient inducement to settle there definitely, while at the same time the constant increase of the Spanish population shows the great adaptability of this latter race in the ancient colonies of Spain.

The rise of the cost of living in Argentina was accompanied at the outset by an increase in the rate of wages, but the proportion was not maintained afterward and the workingman is suffering in consequence. The government is making an earnest effort to eliminate the middleman, by creating markets in the larger centres of population for the sale of provisions direct to the consumer.

In the city of Buenos Aires, the average wage of the workers in 1912 was four pesos paper (the peso paper is equal to 42.46 cents of United States currency). The average wage is about the same in the other provinces, except in those of Corrientes and Córdoba where the average is around 2.50 pesos.

The prices of prime necessities on an average, taken from the current prices in the different provinces in 1910, were in paper currency:

| | | |
|---|---|---|
| Tucumán sugar — 2d class | kilo | $ .43 |
| Oil | " | 1.29 |
| Beef | " | .35 |
| Brazilian coffee | " | 1.10 |
| Corn | " | .10 |
| Wheat | " | .21 |
| Milk (liter) | | .21 |
| Bread — 2d class | " | .27 |
| Potatoes | " | .18 |
| Salt — 2d class | " | .30 |
| Argentine wine (liter) | | .35 |
| Tobacco | " | 1.86 |

(Kilogram is equal to 2.204 pounds avoirdupois.)

The average rent paid by the worker was 28.25 pesos ($12.42) per month. On 20 June 1910 a bill was introduced in the Congress of Argentina authorizing the executive to contract a loan of 20 million pesos for the construction of houses for workers; said loan was to be paid by a yearly contribution of one million pesos payable by the Jockey Club, and the amount derived from rental of the houses, after deducting the expenses of repairs, was to be used in the construction of new houses for workers.

The City Council of Buenos Aires contracted a loan of two million pesos (paper) at 5 per cent interest and 1 per cent for amortization, for the construction of hygienic houses for workers, and after they were constructed, it was decided, for several good reasons, not to sell these dwellings to the workers, but to rent them at low prices, while the details of management were placed in the hands of a committee of ladies called " Protectora del Obrero."

During the year 1910, there were, in the city of Buenos Aires, 214 strikes affecting 17,000 workers. Seventy-nine strikes were ended in that same year, and the determining cause was a demand for an increase of wages. The Department of Labor intervened in the settlement, but this was finally effected by direct negotiation between the workers and their employers. On 6 May 1910 Representative F. Guasch Leguizamón introduced a bill into Congress for the organization of the Department of Labor, the functions of which according to the bill were: (1) To classify, study and publish data referring to labor in its relation to capital in Argentina; (2) To study the labor problem and observe the

efficiency of the laws and regulations referring to same; (3) To supervise the enforcement of said laws and regulations; (4) To offer its mediation in cases when it would be advisable; (5) To undertake the functions of arbitrator and conciliator.

On 16 May of the same year, Representative A. Escobar introduced a bill referring to accidents to workers, in which an accident is defined as follows: "Every mishap which may produce physical or intellectual injury, whether direct or indirect, partial or total, while working, as an effect or consequence of the same." The responsibility of the employer is also defined, rules are established for fixing the amount of compensation, and also the proper procedure to obtain same, and the employer is permitted to substitute his obligation by an accident insurance policy.

On 12 May, another bill was introduced by Representative G. del Barco making arbitration for all questions between workers and employers compulsory and appointing a committee of conciliation therefor.

The above facts indicate that a great movement was in progress in Argentina seeking to satisfy the demands of the workers and employers because of a radical change in their relations even before the European War.

The rural code of the province of Buenos Aires in its third section refers to employers and *peones* and it contains some provisions worth noticing. The contract of labor must be in writing stating the special services, duration, the stipulated wages and the daily hours for working, without any special limitation of the hours. Except during the period of shearing and harvesting, the peon may rest on Sundays and holidays whenever this rest is not contrary to the class of service stipulated in the contract. The contracts should be drawn by the justice of peace in a special book and every contract must be signed by the justice of peace himself, the employer and the employee. When, on account of an unforeseen event, there is urgent work to be done outside of the stipulated hours, the peon is bound to do it if requested by the employer, and the latter is bound to pay the customary wage therefor. If the work is interrupted on account of bad weather, or storms, or any other justifying cause, the employer shall pay the peon for time he actually worked. When an employer needs one or more peons to work outside the boundaries of his district, he must give them a document stating the date and the number of days which he considers necessary for the work. After this period has elapsed, the peon who is found outside said district and who can not prove that sickness or any other real obstacle prevented him

from returning, shall be sent by the justice of peace of the district in which he is found, to the justice of peace of the district of his residence, in order that the latter may deliver him to his employer and impose upon him a fine of 50 pesos for the benefit of the municipality. When there is a question between employer and peon about the amount of money advanced by the former, or about the meaning of some ambiguous or doubtful clause of the contract, the justice of the peace, in default of any other proof, shall decide the question in accordance with the book of accounts kept by the employer, in which case the employer must swear before the justice of peace as to the accuracy of his book.

During the period of the contract, the employer may dismiss any peon who is disobedient, lazy or vicious, and he must so state on the back of the contract; should the peon consider himself injured with that classification he may appeal to the justice of peace asking for his vindication and for indemnity for the injury he may have suffered therefrom.

The cost of living in Bolivia is higher than in any country of South America, except Argentina. Living expenses in Chile are placed at about one-half of those of Bolivia; while in Peru they are 30 per cent lower than in Bolivia. Among the reasons given for this are lack of production of suitable crops, and expensive transportation facilities. One part of the country is rich in natural agricultural resources but they have not been developed to the fullest, while in the matter of mines, the country is very wealthy. This shows one of the peculiarities of the Indian population and is true also of Mexico, Peru, and other countries where the Indians are used in mining — they have shown far greater ability for mining than for agriculture.

Brazil, perhaps, shows a greater diversity of inhabitants than any other country in the world. There, many of the native Indians who live in the forests are savages, whose intelligence has not advanced beyond the stone age, although some of the tribes show considerable skill in their arts and crafts. The total number of Indians in Brazil is estimated to be under one-half million. The southern districts have been chosen by Germans for colonization where they keep very largely to their own language and customs. The Federal and State Governments assist agricultural immigrants in many ways, and by arrangement with the State Governments suitable tracts of government lands may be purchased, upon an easy installment plan. In certain states, the government builds dwelling houses for settlers under certain conditions.

Rio Janeiro has a great problem in supplying houses to the workers; large old houses, abandoned by their owners or used for years as warehouses have been let out as tenement houses, and frequently a family pays $15 per month for a small room with absolutely no modern facilities. From three to six families in such houses may use the same kitchen and bathroom.

Brazil is one of the foremost industrial countries of Latin America; the most important of her manufactures is cotton goods. The number of factories for this industry amounts to 364, giving employment to 168,760 hands.

Brazil is wonderfully rich, both in mines and in agriculture. It is considered the second largest diamond producing country in the world. There has been a time in which more than 40,000 men were employed in this industry in Minas Geraes. The cost of living in Brazil is one of the highest in the world in spite of the wonderful riches of the country for agriculture. This fact is responsible for the great difficulties that the immigrant, who does not possess sufficient means to support himself during one or two years, experiences in going to that country.

The following is a fair estimate of the cost of living for a family of four in the best section of Bahía, one of the main ports of Brazil:

ITEMS PER MONTH

| | | | |
|---|---|---|---|
| Rent | $75 00 | Lighting | $10 00 |
| Provisions | 150 00 | Water | 5 00 |
| Servants | 30 00 | Laundry | 25 00 |
| Fuel for cooking | 10 00 | | |
| Total for one month | | | $305 00 |
| Or per year | | | 3,660 00 |

The average prices for provisions in Bahía are about as follows: (Kilo = 2.204 pounds).

| | | | | | |
|---|---|---|---|---|---|
| Beef | $0 22 | per kilo | Tea | $3 50 | per kilo |
| Pork | 40 | " | Sugar | 11 | " |
| Mutton | 50 | " | Lard | 46 | " |
| Ham | 1 65 | " | Cheese | 2 00 | " |
| Jerked beef | 36 | " | Milk (per liter) | 13 | " |
| Fresh fish | 66 | " | Cornmeal | 13 | " |
| Salt codfish | 30 | " | Beans | 13 | " |
| Bread | 16 | " | Chickens | 55 | each |
| Flour | 13 | " | Ducks | 80 | " |
| Rice | 20 | " | Geese | 2 15 | " |
| Potatoes | 13 | " | Turkeys | 1 15 | " |
| Onions | 13 | " | Eggs | 35 | dozen |
| Coffee | 60 | " | Apples | 15 | " |

In Chile, the people have shown more discipline and working qualities than in many of the other Latin American countries.

On 20 Feb. 1906, the Congress passed a law providing for the construction of houses for workers. In every province and in some of the departments determined by the President of the Republic, councils for the construction of houses for workers are established, under the control of a superior council resident in Santiago, the functions of which are to promote the construction of hygienic and cheap houses for the working classes, to be rented to the workers or sold to them for cash or on the installment plan, to take care of the sanitation of the houses already existing, destined for workers, to fix the conditions under which new houses may be constructed and to approve the plans thereof, when said houses are to have the benefits created by the same law; to oversee the construction of the houses which are placed under their care, with the funds which they may receive from bequests, gifts, or from the government; and to promote the organization of corporations for the construction of such houses. The law defines with full details the requisites of a sanitary home. It also provides for the protection of the home of the workers, making it unattachable when the worker dies, leaving one or more minors, until they reach the legal age, and finally it authorizes the President of the Republic to expend $600,000 for the construction of hygienic houses for workers and minor employees of the administration of the state.

On 26 Aug. 1912, another law was passed for the protection of destitute infants, punishing the persons who engage children of less than eight years for work at night or for some kind of labor that may be improper for the developing of their intelligence or moral character.

Consul Winslow in Valparaiso referring to the cost of living says: " that it has increased from 40 to 50 per cent for the four years from 1906 to 1910, as is shown in the following statement concerning Valparaiso:

| *Item* | 1906 | 1910 |
|---|---|---|
| Rent | $20 25 | $46 00 |
| Meat and vegetables | 51 30 | 83 95 |
| Bread | 4 05 | 10 35 |
| Light and heating | 3 24 | 7 56 |
| Washing | 6 75 | 13 80 |
| Servants | 8 10 | 14 95 |
| Total | $93 69 | $176 41 |

For a family in moderate circumstances, composed of three adults and two children, the cost of living may be calculated in the following way:

| Item | 1906 | 1910 |
|---|---|---|
| Beef, 2.2 pounds | $0 18 | $0 24 |
| Beans, 100 pounds | 2 43 | 3 68 |
| Butter, 100 pounds | 35 00 | 46 00 |
| Flour, 100 pounds | 2 43 | 2 99 |
| Cheese, 100 pounds | 14 85 | 25 30 |
| Japanese rice, 100 pounds | 6 02 | 5 84 |
| Brazilian coffee, 100 pounds | 12 40 | 13 87 |
| Olive oil, case of 40 barrels | 24 00 | 23 72 |

The causes for this increase in the cost of living may be reduced to three: the earthquake of 15 Aug. 1906, the general rise in the price of provisions the world over, and the fluctuation of the value of the paper money, which at times falls as low as 15 cents United States currency per peso.

In Colombia, Indian labor is used to better advantage in the many rich mines. The emerald mines are famous all over the world, and gold, platinum, iron, silver, lead, and copper are also mined there.

Turning now to Cuba, we find that the law of 8 July 1910 authorized an appropriation of $1,300,000 for the construction of 2,000 houses for workmen at the cost of $650 each, to be sold to laborers of good character, who could become the owners of the same by paying a small monthly rent. Since this law was promulgated, about 1,000 houses have been built in the provinces of Havana, Pinar del Rio and Santa Clara.

A law establishing a minimum wage for workers has been in operation since 1 July 1911.

Cubans have disregarded the production of cereals, cattle and fowls to such an extent that they have to depend upon imports for these vital necessities. That explains why the cost of living is high for the working classes.

After the emancipation of the negroes in 1878, Cuba underwent a reorganization of its industrial system, and it must be said to the credit of the Spanish Government on the island, that the change was accompanied by far less distress than in the southern states of the American Union, which undoubtedly was due to the fact that slave conditions in Cuba were much better than those of the slaves of this country, as even before slavery was abolished in the islands, four rights were granted to the negroes; namely, that of free marriage, that of seeking a new

master at their option, that of purchasing their freedom by labor, and that of acquiring property of their own.

The Cuban negro has shown his willingness to work, and has proved equal to the new and increasing demands of agriculture and commerce in Cuba.

The cost of living in Ecuador in 1915 is shown by the following figures:

| | |
|---|---|
| Beans, per lb. | $0 10 |
| Butter, per lb. | 1 00 |
| Coal, per sack | 70 |
| Coffee, ground, per lb. | 30 |
| Eggs, each | 04 |
| Lard, domestic, per lb. | 40 |
| Potatoes, per lb. | 05 |
| Rice, per lb. | 10 |
| Sugar, first 25 lbs. | 2 60 |
| Meat, per lb. | 30 to 40 |

The Central American Republics have a population composed of whites 10 per cent, Indians 50 per cent, and the remainder mestizos and negroes. It is true of this region, as an intelligent observer has written, that when an individual or a corporation decides to undertake development work the fact must be borne in mind that outside capital and outside labor must be provided. The lower classes are Indians of innumerable tribes and varying customs, but a considerable portion of them obey the latent instinct of hatred for physical labor. In this particular they differ in no essential respect from the Indians with whom we are familiar, save that the Central American Indian lives in a land whose soil and climate removes from him much of the incentive to work.

The conditions of labor in Mexico present a great difference when compared with the Central and many of the South American countries. We must bear in mind that Spain intensified the work of agriculture and education in Mexico more than in any other of her colonies, that Mexico received more colonists from the mother country, and the Spanish population, although it is not very high in proportion to the Indian population, is undoubtedly greater than in any other of the ancient colonies of Spain. On the other hand the mestizos or mixed bloods are also more abundant and their influence among the different races of Indians is greater. These facts are responsible for the peculiar character of the Mexican laborers. It can not be said of most of the agriculturists and laborers of Mexico as is said of the Indians of

Central America, that they are averse to physical labor because even though there are many races indolent, there are also many, mainly in the central plateau and in the northern part of the republic, which show ambition, endurance and intelligence enough to cultivate the land in a proper way, and when not satisfied with conditions in their country, they emigrate to the United States in search of better wages and larger opportunities. It is very important and curious to read in this connection the remarks made in Bulletin No. 78, of the Bureau of Labor of the Department of Labor in the United States. Studying the conditions of the Mexicans who migrate to the United States, and the success that they have had in the different branches of labor, it is shown that Mexicans have competed with natives of all other countries of the world in railway construction, and they have dislodged their competitors; and in agriculture, they have proved equally well adapted, and are preferred to all others except Russians.

It is necessary, however, to take into consideration that the aforesaid data refers to that portion of the working classes who have shown themselves to be more ambitious and capable than the average Mexican worker, and sufficiently energetic to show their dislike of conditions in Mexico by emigrating to the United States in quest of better opportunities. But we must not believe that these characteristics are also applicable to the average workers of many sections of the country. There are also Indians in the torrid coastal regions who are physically incapable of great or continued physical exertion, and their number is not very small.

The efforts made by the government of Porfirio Diaz to create an industrial population in the most important centres, complicated the problems of a race and of a country then in an agricultural state of evolution, with those which are peculiar to races which have reached the stage of industrial evolution; as an immediate result, industrial products are higher in price and lower in quality than those that could be imported, with great detriment to the people.

The cost of living in Mexico has undergone the same evolution as in other Latin-American countries. This may be illustrated by the following statement:

| *Items* | 1792 | 1891 | 1908 |
|---|---|---|---|
| Rice, 100 kilos | $7 60 | $12 87 | $13 32 |
| Sugar, 100 kilos | 30 40 | 17 43 | 23 00 |
| Flour, 100 kilos | 2 71 | 10 87 | 21 89 |
| Corn, hectoliter | 1 75 | 2 50 | 4 89 |
| Wheat, 100 kilos | 1 80 | 5 09 | 10 17 |
| Peas, 100 kilos | 1 63 | 6 61 | 10 84 |

Mexican mine laborers are as a class, intelligent, having been trained in mining from boyhood. They work 10 hours a day, are paid every 15 days when shifts are changed and the men have one day free. Before the revolution, labor was plentiful, there were no organizations among the men, and strikes were almost unknown.

In many mines, hoisting is done by men who carry an average load of 160 to 175 pounds in slings on the back, and hung by a strap across the forehead. Ore is often raised in this manner from a depth of 600 feet up "chicken ladders", which are notched poles.

The following wages per day of 10 hours are paid in one of the largest mining camps in Mexico, 20 miles from Chihuahua, in terms of United States currency:

| | |
|---|---|
| Miner | $1 00 by contract — 12 cents per 8 inches |
| Carmen | 75 to $1 00 |
| Tracklayers | 1 25 |
| Timbermen | 1 50 |
| Topmen | 82 |
| Top laborers | 75 |
| Engineers | 1 50 to 3 00 |
| Blacksmiths | 1 50 to 2 50 |
| Shift bosses | 1 75 to 2 00 |
| Carpenters | 1 50 to 2 50 |

The above wages applied practically to all mines in the northern tier of states, but decreased somewhat as one went south. (Commercial Reports from Department of Labor of the United States — No. 28, Washington 1911.)

In agriculture, the average salary in that year may be calculated at about 50 cents Mexican money per day, while in the industries that average may be placed at one peso.

The corn raising system in Mexico is as follows: All the cattle used in farming are ranch property, one yoke of oxen being used to assist in planting, cultivating, and caring for about 11 or 12 acres of land. At the beginning of the season, June, the renters of the land hire a yoke of oxen for each 11 or 12 acres to be cultivated and for which they are charged $10 per yoke for the season. The renter then is given a credit at the ranch store, which enables him to live while raising his crop. He signs a contract to raise a crop and to give the landowner one-half clear of all expenses. The renter and the landowner each pay one-half of the cost of husking. The corn is then divided into two parts; from the portion belonging to the renter, the store account, the $10 for oxen and the half of the cost of husking

are paid. (The Mexican peso equals $.498 American currency; the hectoliter equals 2.839 bushels.)

The government of Peru has recently promulgated a law in which, in case of accidents to the worker, provision is made for the payment of compensation from the very day on which it occurred. Physicians are required under penalty of fine or loss of office, to attend the victims of accident, and judges will exact costs from any employers who seek to evade the payment of an indemnity by alleging negligence on the part of victims.

Another recent law provides that native laborers must be paid in money, and they must not be compelled to live in agricultural, pastoral or industrial centres against their will. The daily wages of native laborers in the mountains shall not be less than 20 centavos (8.5 cents), even though such laborers receive concessions of land, animals, foodstuffs etc. In case food is furnished, it is not to be more in value than the laborer earns each week. Laborers now working on plantations without receiving wages are free to abandon their places, with their families, animals, and tools unless they have entered into a contract, in which case the employee must stay out the year. In all cases he must pay any existing indebtedness, but neither persons nor animals can be held for debts.

In Peru, the Indian has proved decidedly unfitted for agriculture. This fact is responsible for the efforts made at different times to supplant native labor by the importation of Japanese and Chinese coolies from 1849 to the present.

It is estimated that between the years 1849 and 1874 no less than 87,343 coolies were imported into Peru. Japanese workers under contract for periods of six years were also imported in 1899 and again in 1903, their number being estimated at 2,000. Peruvian statesmen have been very much concerned with this importation of laborers which can not be productive of any good to the native population and they are thinking of a way to regenerate the Indians but no way out has yet been found—either Peru must cultivate its lands and natural riches so as to meet the demands of its own people and the world, in which case it must accept foreign workers, or else it has to abide by the labor of the natives, and neglect utilizing its great natural resources to the fullest extent. In the region of the Amazon, however, a number of independent laborers, Chinese or Japanese, have settled, attracted thither by the opportunities offered to the worker.

Prevailing rates of wages in Uruguay are shown approximately in the following table:

| | |
|---|---|
| Blacksmith, day | $1 00 to $1 80 |
| Mason, day | 1 20 to 1 70 |
| Carpenter, day | 1 20 to 1 85 |
| Day laborers, day | 1 20 |
| Marble cutters, day | 1 20 to 1 50 |
| Painters, day | 1 55 to 2 00 |
| Country day laborer, day | 1 20 |

Montevideo suffers from the common South American condition of the high cost of living and rent. Articles of clothing and food are double the price of those in Europe. Fresh provisions and fruit, which in a fertile temperate land ought to be cheap, are not so.

Venezuela's main occupations are of an agricultural and pastoral nature. In this latter the *llanero*, a native race of hardy horsemen of Venezuela, was famous from the colonial period as intelligent ranchers. The many wars, however, have decreased the number of this class. The prices of necessities in Venezuela are as follows:

| | |
|---|---|
| Fillet of beef, per lb | $0 20 |
| Mutton, per lb | 25 |
| Coffee, per lb | 10 to $0 14 |
| Onions, per lb | 08 to 09 |
| Potatoes, per lb | 04 to 06 |
| Flour, per bbl | 13 00 |

This is the scale of wages of some of the wage earners:

| | |
|---|---|
| Women cooks | $6 to $12 per month |
| House servants and waitresses | 4 to 6 " " |
| Man butler or messenger | 10 to 15 " " |

We may draw the following conclusions from the facts above stated:

*First.* All are agreed in regard to the stupendous riches of Latin America and its adaptability to agriculture.

*Second.* The mineral resources are equally great, but the mines as a rule belong to foreigners, who utilize the labor of the Indians and export the output of those mines, producing the paradoxical effect of the excess of exportation over importation, together with the fact that the countries are indebted to foreigners.

*Third.* The natives in many cases have shown intelligence, obedience, and endurance, but they have not been properly educated. A sound Latin-American policy must lead education and all social forces toward agriculture, which is the only substantially national occupation.

*Fourth.* Fortunately, the native population has not shown the tendency of many other peoples to desert the country for crowded cities.

*Fifth.* Industry has been sustained by means of protective tariffs and concessions which produce an increase in the value of many necessities and divert the energies of a group of the population which in agriculture would live a better life, both from a physical and economical point of view.

*Sixth.* As the life of the people is of first importance, and it depends upon agriculture, the most sensible policy for Latin America would be to direct its activities toward developing agriculture with all the resources of modern science.

*Seventh.* The ill advised tendency to divert the natives from agriculture in the direction of industry brings to the Latin-American countries the intricate industrial problems of Europe, creates among the natives the desires of the European workers, and submits them to the kindling oratory of demagogues who make them believe with superstitious faith in socialistic promises, thus increasing the revolutionary tendencies of those peoples.

*Eighth.* The well known characteristic of the Indian races of America is their tendency to and ability for imitation. This characteristic is one of their best qualities, if the ruling classes of Latin America, conscious of their duties, direct the policy of their countries toward peaceful agriculture.

In the above mentioned study published in the Bulletin of the Bureau of Labor of the Department of Labor of the United States, we notice this statement which is more eloquent than anything else we can say. Referring to the character of the workers, the statement is made: "When you have occasion to discharge one Japanese, all would quit and so you are left without men. But if a Mexican proves a poor or undesirable workingman, you can let him go without breaking up the whole gang." The interpretation of this fact is that the workers of Mexico, and we may say, the native workers of America, lack a sense of co-operation.

So then, when tracing the policy of the peoples of Latin America, we must advocate these two things: the promotion of agriculture and, by proper law and education, the development of a sense of responsibility and of co-operation. These were the aims of Spain in her system of missions for the uplifting of the Indians, and these are also those of the United States in keeping the aborigines in reservations for educating them before granting them the right to govern themselves.

# Property Rights and Land Ownership in Latin America

By Irving E. Rines

## General Provisions

ALMOST without exception the constitutions of the Latin-American countries guarantee the inviolability of property, whether belonging to individuals or corporations, and stipulate that no inhabitant may be deprived of it, save by due process of law. Foreigners enjoy the same rights as natives in the holding, purchasing and selling of real property. The house is the individual's asylum and cannot be entered at night without the consent of the occupant nor during the day save in the cases provided by law or in cases of *in flagrante delicto*. In Bolivia, Argentina and some other countries confiscation of property may not be applied as a punishment for political offences; while Honduras provides that the right to recover confiscated property is barred by limitation at the end of 50 years (Nicaragua provides that this right shall never be barred); and in most countries condemnation of private property may not be ordered except for public utility and according to law and upon previous and just indemnification. Under the 1917 constitution of Mexico attachment proceedings of the whole or part of the property of any person made under judicial authority to cover any civil liability shall not be deemed a confiscation of property. Private papers and correspondence are inviolable and may not be seized, intercepted or searched, except in the cases determined by law and upon written order of the competent authority. No soldier or military man shall be quartered in a private house in time of peace without the consent of the owner, nor in time of war except in the manner prescribed by law; Argentina provides that no armed force can make requisitions or exact assistance of any kind. Only in case of war and solely for the purpose of insuring restoration of public order, the seizure of private property in Colombia may be ordered by authorities not vested with judicial power and without previous indemnification. In time of peace no one shall be deprived of his property, either wholly or in part, except in the following cases: (1) Through general taxation; (2) Through

reasons of public utility, defined by law, upon previous indemnification, except in case of condemnation for the purpose of opening or constructing highways of communication, in which case the benefits derived by the owners of the condemned land are supposed to be equivalent to the price of the strip of land which was needed to build the road. But if it be shown that this land is worth more, the difference shall be paid.

### Religious Property

Bolivia provides that real estate belonging to the Church and the property of educational, charitable and municipal establishments or religious corporations shall enjoy the same guaranties accorded the property of private individuals. In Panama buildings devoted to any form of worship, theological seminaries, and the residences of bishops and parish priests are not subject to taxation. In Peru the Roman Catholic churches and convents belong to the state which makes an annual subsidy in aid of public worship. The Mexican constitution of 1917 provides that religious associations may not acquire, hold or administer real property or loans made on such real property. All places of public worship are the property of the nation and the provision regarding loans holds true (if the mortgage do not exceed 10 years) of charitable institutions and institutions for scientific and educational purposes, mutual aid societies or organizations formed for any other purpose.

### Monopolies, Etc.

Under the terms of Article XVI of the civil code, property situated in Chile is subject to Chilean laws, even though the owners be foreigners living abroad. The Colombia and Panama constitutions provide that no real property shall be inalienable or obligations irredeemable. In Nicaragua and Salvador no monopoly may be established except as a means of revenue and by virtue of a law. In Honduras monopolies, privileges and concessions in favor of private parties may be granted only for a limited time in order to promote the introduction or improvement of industries, colonization, immigration, institutions of credit and the opening of ways of communication.

### Recent Mexican Laws

Some provisions of the 1917 constitution of Mexico deserve particular mention. Only Mexicans by birth or naturalization and Mexican companies have the right to acquire ownership in

land, waters and their appurtenances, or to obtain concessions to develop mines, waters or mineral fuels. Foreigners may receive this right provided they agree to be considered Mexicans in respect to such property and accordingly not to invoke the protection of their governments in respect to same, under penalty of forfeiture to the Mexican government. Within a zone of 100 kilometers from the frontiers and of 50 kilometers from the seacoast no foreigner, under any circumstances, may acquire direct ownership of lands and waters. The large landed estates shall be subdivided; the maximum area which any one individual or corporation may own is fixed; and the excess of such area shall be subdivided and offered for sale. No private or governmental monopolies of any kind will be allowed. Mexicans must register at the polls of the municipality and set forth any property they may own.

### Official Liabilities

Many of the constitutions state that public officials who violate any of the established guaranties are responsible with their property for the losses and damages sustained through their action. No citizen of or foreigner resident in Haiti, Honduras, Salvador or Venezuela may claim indemnity from the state for losses sustained by virtue of civil and political troubles, but the injured parties may prosecute in the courts the persons recognized as authors of the wrongs perpetrated and in this way seek the proper legal reparation.

### Disposal of Property

In most countries every person legally capable of exercising his rights may dispose of his property by sale, donation, last will and testament, or any other legal way of conveyance. In Argentina the right to dispose of property by testament is granted only to unmarried persons, having no parents or descendants. Four-fifths of the father's fortune must by law be left to his children, and if there be no children, the husband is obliged to leave one-half of his fortune to his wife. An unmarried son is obliged to leave two-thirds of his property to his parents. In Cuba, unless the husband expressly permit her, the wife cannot acquire property by an onerous or lucrative title, alienate her property, or bind herself save in the cases and with the limitations established by law. (In this connection see also the article on Commercial Regulations, subtitle *Merchants*). In Ecuador women have the full administration of their property even when they are married.

The Haitian constitution provides that natives alone can own real property and that a Haitian woman who has lost her national character by marriage to a foreigner shall be disqualified from holding or acquiring real property by any means or for any reason whatsoever. The law shall provide for the condemnation of the property owned by her before her marriage. Guatemala, Honduras, Nicaragua, Salvador and some other countries absolutely prohibit entailments of property and foundations or endowments in favor of dead hands, excepting those made in favor of charitable establishments. To guarantee property and the free disposal of it in Peru, the name of the actual owner should be inscribed in the Registry of Landed Property and also the manner in which the property has been acquired, any existing incumbrances and any prescriptive rights which may limit the free disposal of it. Foreigners have the right to dispose of their property by will, but if a foreigner die without a will and there be no legal heirs, the property is immediately placed under control of the consular representative of the nation to which the deceased foreigner belonged. After an inventory has been taken, the property is liquidated and the balance (if any) is given to the heirs through the intervention of the consul. No payment may be made to the heirs until six months after the notice of the death has been given.

## Land Holdings

The undeveloped resources and potentialities of the Latin American countries are enormous and vast tracts of land still remain the property of the various states. In most of the countries large estates predominate and the wealth is monopolized in the hands of a few persons. Article XXV of the Constitution of Argentina provides that the government "shall encourage European immigration, and shall not restrict, limit or obstruct, by taxation of any kind, the entrance into the Argentine territory of foreigners coming to it for the purpose of engaging in the cultivation of the soil, the improvement of industrial business or the introduction and teaching of arts and sciences." But prior to the beginning of the settlement period, the land was given in immense tracts to political favorites or to successful warriors and, under the old Spanish régime, the rest of the people were contented to work for the landowners. Argentina is and always has been a country of large estates, many of them containing 60,000 acres or more, the average holding being about 3,800 to 4,000 acres. In rural communities small property holdings are the rule and the

cutting up of large holdings has steadily increased, due in part to the inheritance laws under which there is an automatic division of estates among the heirs and in part to the fact that the Argentine landowner is not concerned with questions of primogeniture, entail, etc., but regards his property wholly from the business standpoint. According to the latest statistics the number of holdings in selected parts of Argentina, divided into their various sizes, was as follows:

| Size in hectares | Number of holdings | | | |
|---|---|---|---|---|
| 10 hectares = 24.71 acres | Province Buenos Aires | Province Córdoba | Province Santa Fé | Territory Pampa |
| 10 to 25 | 14,001 | 5,671 | 6,876 | 583 |
| 26 " 50 | 14,191 | 5,045 | 6,830 | 423 |
| 51 " 100 | 9,248 | 5,280 | 7,276 | 2,174 |
| 101 " 200 | 7,466 | 5,732 | 7,875 | 401 |
| 201 " 300 | 3,850 | 2,658 | 3,020 | 287 |
| 301 " 650 | 4,940 | 3,872 | 2,545 | 330 |
| 651 " 1,250 | 3,256 | 1,685 | 1,263 | 512 |
| 1,251 " 2,500 | 2,530 | 992 | 768 | 1,412 |
| 2,501 " 5,000 | 1,649 | 619 | 506 | 445 |
| 5,001 " 10,000 | 682 | 268 | 208 | 431 |
| 10,001 upwards | 306 | 147 | 136 | 172 |
| | 62,119 | 31,969 | 37,363 | 7,170 |

The status of the people in Brazil is largely bound up with the question of land tenure, the large estate owners practically controlling the agricultural industries, the *fazendas* or coffee plantations being typical of the large estates. Under the state-aided colonization and contract systems, a great wave of immigration set in, particularly from Italy, the labor of these immigrants helping to develop the coffee plantations of São Paulo; but being unable to obtain land of their own the laborers derived little permanent benefit and became nomadic. In Chile the landed proprietors or *haciendados* frequently own as much as 10 square miles of land which is usually cultivated through *encomenderos* or factors. The landowner, who is generally a magistrate, with summary powers of jurisdiction over petty offenders, possesses extraordinary influence. Mortgages do not permit the division of the estates they cover nor can a portion of the land be sold to pay interest, and when the owner cannot meet his interest obligations the hacienda is sold at auction. Since the large estates are seldom split up, a peculiar system of management prevails. In order to obtain labor without retaining it permanently on a salary or wage basis, the landed proprietor allows a peon to occupy as much land

as he can till with the assistance of his family, these peons being known as the landlord's *inquilinos*. They pay no rent and the produce of the land belongs to them; sometimes on a small scale they raise stock, pigs and poultry. In return for the privilege, the peon must sell his labor to the landlord at about two-fifths of the prevailing local rates. When most needed on his own farm the peon is called upon to cultivate the landlord's property, and therefore, as he cannot devote much attention to his own lands, the women and children must attend to the farming, which results in under-cultivation and accordingly little profit to himself. Legally the peon or roto may leave his employment or be discharged at any time, though this seldom occurs. The owners of large estates furnish homes for their servants free of rent. Land in Chile is subdivided equally among all the children and the roto follows this practice.

As in Chile, the land in Ecuador is divided among the whites and some of the mestizos of the nearly white class, and consequently is largely monopolized in a very few hands. In Guatemala the Creoles (Europeans or those of European extraction), though constituting only about one-tenth of the population, own all but a small fraction of the wealth of the country. In Peru the ownership of mines is distinct from that of the land or superficial property, and, generally speaking, any Peruvian (save officials) or foreigner capable of owning property may acquire mining claims. In unfenced lands prospecting is free but in fenced property requires the consent of the owner. In the foothills regions of Peru there are a few extensive plantations belonging to single landowners, as along the coast. The *Cholo* Indian is a small landowner — a state inherited from the old Inca régime — and he cultivates his small holding chiefly with the idea of supplying his own meagre wants. The laws prohibit the alienation of these small holdings from the *Cholos*, with the intent to preserve this useful peasant class.

Among the Indians of Bolivia is in vogue a territorial system essentially the same as that established by the Inca sovereigns who did not recognize private property, the soil being cultivated in community and the products shared. The unit was the *ayllo* which was divided into 10 or more *aynocas* and none of the co-proprietors of his own free will could extend his crops. The *aynocas* are still cultivated periodically and in alternation at the rate of one or two a year, the rest being used as a community pasturage. The Spanish colonial system has modified this arrangement by individualizing the property of the natives of each *ayllo* by means of *sayanas* for the imposition of tribute, a

territorial tax which must be paid in silver. The Indians of a community are divided into *originarios*, possessing land in the valleys, and the *puna agregados*, or colonists owning land, and *foresteros*, or associated foreigners. Respectively these classes pay taxes of 9, 7 or 3 bolivianos, which are collected by the corregidors, who every six months remit them to the departmental treasuries. In spite of the laws and the passage of time the Indian's community idea has not been uprooted and the majority of the Indians have obstinately rejected the laws of 1874 and 1880 which declared them to be the owners of their *sayanas*.

### Encouragement of Immigrants and Colonists

The various governments are rapidly throwing open to settlers the territories belonging to the state and by means of liberal immigration laws are encouraging an influx of hardy immigrants who will cultivate and develop what hitherto have been waste and unproductive lands. Most countries offer to immigrants exemption of duties on personal and household goods, machinery, tools, etc.; free transportation from port of debarkation to point of destination; a grant of a certain area to single men and usually twice that area to married men; and exemption from taxation for a period generally placed at 10 years. In some countries the immigrant is maintained at the expense of the state for a few days after arrival at port of entry until he has had time to select the section in which he wishes to settle, and every facility of the government is placed at his disposal so that he may select wisely and thus become a colonist of great productiveness. Brazil's regulations are typical. In the first place, genuine immigrants who arrive with families of not less than three children, between 12 and 50 years of age, are reimbursed the cost of their third-class passages, and their possessions are exempt from import duty. Special attention is given to immigrants who wish to attach themselves to one of the colonies which are agricultural and stock-raising centres. Free passage and free maintenance are provided by the government until the immigrant is established on the plot he has selected to cultivate. Provisions are also furnished for a period of six months until the first crop provides the family with food of their own growing; in payment the head of the family must work 15 days each month upon the public work of the colony, usually consisting of extensions of existing roads. The colonies are divided into four classes: those established by the national government; those established by the states with the national support;

those established by the railway companies, which have acquired lands as a premium for railway construction; and those established by other companies or by private persons. The land is divided into rural and urban lots, the latter being about 1¼ acres in size and the former about 62 acres when the land is near a railway or navigable river or 120 acres when far distant from these. Rural lots are sold to the colonist with a family and unable to pay cash at from $1.25 to $2.50 (U. S.) per acre, but to the colonist without a family the charge is from $2 to $3.75 per acre. Urban lots are sold only for cash and at prices varying from $200 to $500 per acre, depending upon proximity to railways, navigable rivers, etc. The purchase price of rural lots may be liquidated in installments extending over a number of years, no payment being required for the first year, but a discount of 12 per cent on outstanding installments is given the colonist who liquidates his indebtedness prior to maturity. Should the colonist die, his legal rights are conserved for the wife and family and every protection is granted against creditors to that part of the plot on which the home stands, known as the homestead. The conditions of payment vary in detail but the principle is everywhere similar to that outlined, which applies to the Federal colonies.

The public lands in the national territories of Argentina are being thrown open rapidly to settlers. This is particularly true of districts in Pampa, Santa Cruz, Chubut, Rio Negro and Neuquén, where holdings of from 10,000 to 20,000 hectares are being offered for colonization on favorable terms. Leased lands may be secured on a 10 year lease at an annual rental of $12.50 paper per hectare with the option of renewal for further periods of 10 and 5 years; and if the government should at any time decide to sell the tenant may purchase outright. The amount of public land that may be leased or purchased by one person is limited by the law of 1907. Agricultural lands are divided into lots of 250 acres and may be granted to persons or corporations; grazing lands so granted do not exceed 6,250 acres. Under the law no person or corporation may acquire more than four town lots or two agricultural and one pastoral lot in the reserved zones or more than 50 acres in the outside lands. Such agricultural lands must be settled within two years and a capital of not less than $1,000 be invested in cattle and $250 in buildings per square league. On a town lot the purchaser must build a house within a year. Pasture lands unsuited to agriculture are sold in lots not exceeding 6,000 acres, but within two years the purchaser must stock the land with at least 500 sheep or 80 cows and plant 100 trees. Lands not

exceeding 50,000 acres may be leased by a person or corporation for five years, on the expiration of which term the tenant may purchase one-half this area at a price stipulated in the lease. Such lands must be financed by the lessee and personally managed. Forest concessions may be granted for not more than 10 years on payment of one-half the value of the wood sold.

Under the Bolivian law of 26 Oct. 1905, as many as 20,000 hectares may be purchased by one person for farming and grazing land, at a price approximating 10 centavos per hectare, but if the land contain rubber trees the price is 1 boliviano (about 40 cents gold) per hectare. In order to purchase more than 20,000 hectares, the request must be laid before the Bolivian Congress. The purchaser must settle at least one family on every thousand hectares. Some of the vacant lands are reserved by the government for adjudication to immigrants, the lands being granted only by act of congress. In no case can public lands be claimed which are not actually occupied. Each immigrant can obtain about 50 hectares at 10 centavos per hectare and has the right freely to select the land desired in the designated zone. The immigrant may pay cash or in five yearly installments, but in the latter case 5 per cent annually is charged and the property cannot be alienated or mortgaged, the government having first lien on the land. No immigrant may possess more than three lots or sections by purchase or otherwise. Male children over 14 years of age may secure 25 acres above the 50 usually allotted and children over 18 years of age have the right to acquire separate land.

In Chile land may either be rented from the haciendas or purchased from the state. Most of the land in central Chile is occupied but vast tracts in the south may be purchased at about $2.25 (U. S. currency) per acre or $5 per hectare. Only one-third the purchase price need be paid immediately; the balance may be paid in installments extending over 10 years. To induce immigrants to settle in the agricultural and timber regions of the south, Chile has enacted a liberal colonization law, the attractive features of which include free transportation from foreign ports to point of destination, 160 acres of land to the head of each family, and a government subsidy of 500 pesos with which to buy farm implements, to erect habitations, etc. Guatemala divides her public lands into lots not more than 15 caballerias (a caballeria equals 113⅝ acres) and sells these lots at from $250 to $300 each. The government offers premiums for the cultivation of India rubber, cacao, sarsaparilla, cotton, and tobacco, and exempts from taxation for a period of 10 years all lands devoted to the cultivation of

these products. In Colombia grants of government forest lands are made for units of not more than 3,000 hectares. Concessionaires may receive two or more units but such units must be separated by tracts of not less than 3,000 hectares. Grants are made for only one clearly specified line of exploitation — the cutting down of timber trees. Land grants have also been made for development of the banana industry. Every person occupying and cultivating government lands and building a residence thereon acquires the right of ownership to the cultivated portion and to additional land equal in extent to the cultivated portion. A colonist or agriculturist may apply to the proper officials who will cause the property he occupies and has cultivated to be surveyed at the colonist's expense, and then the municipal board shall decree the provisional adjudication of the lands to the colonist and shall send the proceedings to the Department of Public Works for final adjudication, which shall be granted if there be no legal obstacle. Lands so adjudicated must be 1 myriameter distant from existing railways or those in construction. Agriculturists or colonists may freely sell the plantations, buildings and seed plots established on public lands. No adjudication of public lands shall exceed 1,000 hectares and the government reserves to itself alternate areas equivalent to those adjudicated, but if colonists desire to obtain adjacent lands they may do so by purchase. Public lands may be purchased outright at not less than 50 cents gold per hectare for land suitable only for grazing stock, and at $1 gold for cultivated lands; and 10 per cent of the purchase price must be deposited as a guarantee at the time application is made. Public lands exceeding 1,000 hectares in area may be sold by the government provided the bids for their acquisition are made directly to the Department of Public Works.

The government of Honduras may prohibit the sale of national lands on the shore of both oceans and to a distance of two leagues inland, as well as the sale of the land on islands and keys. National lands need not be purchased outright, but foreigners, as well as natives, may obtain concessions of land for plantations of coffee, cacao, cotton, sugar, rubber, fruits, etc. Lessees of lots pay an annual tax on land under cultivation, which tax may not be increased for 25 years; but the lessee will forfeit title if he fail to begin cultivation within two years or neglect to pay taxes when due. In Peru laws were passed in 1898, 1909 and 1910 to promote the establishment of colonies to develop the country, the laws permitting the executive to sell or lease certain state lands to individuals or corporations for agricultural, manufacturing or mining

purposes or to encourage public utility works, such as irrigation and the building of roads and railways. The cultivable coast lands are mainly held by large companies or wealthy proprietors; in other cases they are owned by communities. In many localities, especially the sugar and cotton-growing districts, the small cultivator and the capitalist factory owner form a sort of partnership, the latter providing the land and the water supply in return for one-quarter of the crop; or if in addition he provide seeds, tools, oxen, etc., he receives one-half of the crop. Concessions of montaña land are made either as free grants, as freehold property at about $2.50 per hectare (not more than 1,000 hectares being granted to any one person without legislative sanction), or as tenancies held from the state at a rental of about 5 cents per hectare. Grants are perpetual, subject to an annual tax of about 2½ cents per hectare. In Salvador the acquisition, preservation, uses and right of way of rural properties are subject to the common law. Persons holding uncultivated common or public lands and not having the title of ownership, but who wish to obtain same, must apply in writing to the municipal mayors of the place where the property is situated, stating the location, character and extent of the property, its boundaries or landmarks, its incumbrances or taxes, the names of the neighbors and their residences. The mayor publishes the application and if no opposition arise orders the issuance of the title of ownership, after an accurate survey of the land has been made at the expense of the applicant. The mayors, through the respective governors, forward to the national executive certified copies of all land titles issued. Lands not held by private parties are sold at public auction, the basis for bids being 3 pesos per hectare, and no other title is necessary than the certificate of the proceedings of the auction, which certificate shall describe the land sold and its boundaries.

# International Claims Against Latin America

By Edwin M. Borchard
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LATIN AMERICA is to-day among those sections of the world which depend largely upon foreign capital and enterprise for the development of their natural resources and their economic expansion. This fact necessarily has resulted in the investment in those countries of considerable foreign capital and in the immigration of large numbers of foreigners. The presence of so many foreigners and foreign interests has given rise to not a little friction between the foreigner, or the foreign government of which he is a citizen, and the local Latin American government. Indeed the great number of pecuniary claims preferred by the governments of Europe and the United States on behalf of their citizens against the states of Latin America constitutes an important chapter in the international economic and legal relations of those republics.

## The Alien

The laws of the countries of Latin America have been extremely liberal to the foreigner. It is not generally known that Chile was the first country of the world to place foreigners and natives on terms of civil equality, preceding in this respect by 10 years the Italian civil code of 1865, the first European code to embody this generous provision. In view of this equality of civil rights, it might be assumed that burdens should likewise be shared with natives, and particularly by permanently domiciled aliens. For example, the Latin American countries have taken the position that foreigners who have established themselves permanently in those countries are subject to sacrifices which civil commotion, insurrection and civil war may impose upon the inhabitants. Notwithstanding the considerable measure of justice in this position, the Latin American countries have suffered severely from the apparent unwillingness of European governments to share their view. The privileged position which the foreigner has thus enjoyed, partly by the insistence of Europe, has induced the Latin

American states to create devices, by legislation or administrative regulation, to specify with precision the privileges of foreigners and to condition their right to claim the advantages of that status upon the fulfillment of various requirements. One of these is matriculation.

### Matriculation

Several countries, e. g., Mexico, Salvador, Honduras, Guatemala, Venezuela and Peru, have at various times required foreigners to matriculate or register their alienage in a certain public register, as a condition precedent to the assertion of their rights as foreigners. As provided by the Salvadorean law of 29 Sept. 1886, these rights of foreigners are:

(1) To appeal to the treaties existing between Salvador and their respective governments;

(2) To have recourse to the protection of their sovereign through the medium of diplomatic representation; and

(3) The benefit of reciprocity.

With respect to such statutes, the United States has taken the view that while this government is disposed to admit the convenience of registration as an additional evidence of the rights of its citizens to the protection of the local authorities, it has never admitted that the failure to register could deprive American citizens of their rights as such citizens.

### Denial of Justice

It is a general rule of international law, that the foreigner is bound by the local law and must resort to the local courts for redress of his injuries. He must also exhaust his rights of appeal. Only if there has been what is known as a "denial of justice," i. e., some abusive and flagrant corruption in the courts, or violation of due process of law by the local authorities, may the foreigner have recourse to the protection of his own government for its formal interposition in his behalf. Only if it appears that, by reason of corruption or weakness of political organization, justice is impossible to obtain, will the United States excuse its citizen from exhausting his local remedies.

The Latin American countries have made every effort to bind foreigners to resort to the local courts, even to the extent of defining a "denial of justice" in their own legislation (e. g., Honduras, Guatemala and Salvador).

Foreign countries, however, have always insisted upon their right to determine for themselves when a denial of justice has taken place. As expressed by Secretary of State Fish: "Foreign governments have a right, and it is their duty, to judge whether their citizens have received the protection due to them pursuant to public law and treaties." In this fact lies the primary condition for the all too frequent abuse by strong states of the rights of many of the weaker countries of Latin America.

### The Calvo Clause

The frequent abuse of the right of diplomatic interposition, to the great injury of some of these weaker republics, led the well-known Argentine publicist, Calvo, to formulate certain principles which have received the name of "Calvo doctrine." They are mentioned here because of the reliance placed upon them by several countries of Latin America in seeking to prevent or resist diplomatic claims on behalf of foreigners. Calvo's views are thus expressed:

"Aside from political motives these interventions have nearly always had as apparent pretexts, injuries to private interests, claims and demands for pecuniary indemnities in behalf of subjects. According to strict international law, the recovery of debts and the pursuit of private claims does not justify *de plano* the armed intervention of governments, and, since European states invariably follow this rule in their reciprocal relations, there is no reason why they should not also impose it upon themselves in their relations with nations of the new world." (I, Sec. 205.)

"It is certain that aliens who establish themselves in a country have the same right to protection as nationals, but they ought not to lay claim to a protection more extended. If they suffer any wrong, they ought to count on the government of the country prosecuting the delinquents, and not claim from the state to which the authors of the violence belong any pecuniary indemnity." (VI, Sec. 256.)

As will be observed presently, many of the countries of Latin America have written these principles into their constitutions, statutes and treaties. They have incorporated them into their concession-contracts in the form of a clause which has received the name "Calvo clause," to the effect that the foreign concessionaire "renounces all right to prefer a diplomatic claim in regard to rights and obligations derived from the contract," or else that "all doubts and disputes" arising under it "shall be submitted

to the local courts without right to claim the diplomatic interposition " of the alien's government.

In ordinary claims arising out of contract it has been the policy of the United States not to interpose diplomatically unless, after the exhaustion of local remedies, there has been a denial of justice in the sense above mentioned, or some confiscatory breach of the contract by the government. The Calvo clause is not repugnant, therefore, in ordinary contract claims, to the policy of the United States. Nevertheless, the clause as such, as a renunciation by the citizen of his right to the diplomatic protection of his Government has been denied validity by the Department of State. Secretary of State Bayard in 1888 formulated the rule as follows:

" This government cannot admit that its citizens can, merely by making contracts with foreign powers, or by other methods not amounting to an act of expatriation or a deliberate abandonment of American citizenship, destroy their dependence upon it or its obligation to protect them in case of a denial of justice. It is not competent to a citizen to divest himself of any part of his inherent right to protection or to impair the duty of his government to protect him."

International tribunals of arbitration have had frequent occasion to construe the Calvo clause. Their decisions are conflicting, due partly to differences in the protocol under which they were acting. The prevailing and the better rule was adopted in the majority of cases, among which the Rudloff case against Venezuela may be cited as typical. There it was held by Bainbridge, American commissioner, that " It is not within the power of a citizen to make a contract limiting in any manner the exercise by his own government of its rights or the performance of its duties " (i. e., of protecting its citizens abroad). " The individual citizen is not competent by any agreement he may make to bind the state to overlook any injury to itself arising through him, nor can he by his own act alienate the obligation of the state toward himself, except by a transfer of his allegiance."

### The Drago Doctrine

On the occasion of the joint intervention of Great Britain, Italy and Germany against Venezuela in 1902, Dr. Luis Drago, the Argentine Minister of Foreign Affairs, in a note addressed to the Argentine Minister in Washington, advanced the proposal, designed to constitute a corollary to the Monroe Doctrine, that " the public debt [of an American state] cannot occasion armed

intervention, nor even the actual occupation of the territory of American nations by a European power."

The proposal at once aroused the greatest interest. Briefly, the proposed policy is based on the ground that the public bonds of a nation are issued by legislative act, an act of sovereignty; that, being payable to bearer, they pass from hand to hand, from national to national, by mere delivery; that the price paid takes into account the value of the security, intrinsically and as an investment, and therefore, the credit of the issuing government; and that the issuing state is the sole judge of its ability to pay. The investor, therefore, buys with full notice and assumption of the risks, and has weighed the probabilities of large profits against the danger of loss. Hence, Dr. Drago concluded, it is unfair to make the non-payment of a public bond, *not due to fraud or bad faith*, the reason for armed intervention.

The agitation for the introduction of this principle into international law persuaded Mr. Root to instruct the delegates to the Third American Conference at Rio de Janeiro in 1906 to consider the subject, but recommended that it be referred to the Hague Conference of 1907. There, the United States delegation brought it forward in a somewhat revised form providing that the use of force for the collection of contract debts is not permissible until after the justice and the amount of the debt, as well as the time and manner of payment, shall have been determined by arbitration. This proposal, which in part is wider and in part narrower than the Drago doctrine, is known as the Porter proposition (having been sponsored by General Horace Porter), and as finally adopted in a convention, by a vote of 39 in favor and 5 abstentions, reads as follows :

" The Contracting Powers agree not to have recourse to armed force for the recovery of contract debts claimed from the government of one country by the government of another country as being due to its nationals.

" This understanding is, however, not applicable when the debtor state refuses or neglects to reply to an offer of arbitration, or, after accepting the offer, prevents any *compromis* from being agreed on, or, after the arbitration, fails to submit to the award."

## Civil War Claims

Various states of Latin America, exposed as they have been to constant revolutionary movements, have on numerous occasions been subjected to liability by the countries of Europe for injuries

inflicted on foreigners by insurgents or during civil war. This, too, notwithstanding the general principle of international law, adopted by the United States and by nearly all claims commissions of arbitration, that a state is not responsible for injuries sustained by aliens at the hands of insurgents beyond control of the government, unless there is proven fault or a want of due diligence on the part of the authorities in preventing the injury or in suppressing the revolution.

This doctrine is predicated on the assumption that the government is reasonably well ordered, and that revolution and disorder are abnormal conditions. European governments, in pressing their claims, have charged a lack of due diligence in preventing or suppressing revolutions, inherent disorganization or, often, no good legal ground of liability at all. Such claims have been brought against Argentina, in 1858; against Chile, after the revolution of 1891; against Brazil, in 1894; and against Venezuela, in 1892 and in 1903.

In order to avoid this pressure of claims arising out of civil war, the Latin American states have succeeded in concluding numerous treaties with European nations by which the latter admit the non-liability of the government for injuries sustained by their subjects in civil war at the hands of revolutionists or savage tribes, provided the damage is not caused through the fault or negligence of the authorities of the government. The republics of Latin America have, among themselves, concluded treaties providing for absolute non-liability, whether the injuries sustained by their respective citizens are due to the acts of insurgents or legitimate authorities. They have also resorted to other methods to avoid the presentation of claims by foreigners for injuries sustained during civil war. In the resolutions of Pan-American Congresses, in their constitutions and in their statutes, they have provided that the alien taking part in a civil struggle shall be treated as a native and shall lose his privilege of alienage. Moreover, relying largely on the authority of Calvo, these states assert that inasmuch as states do not recognize any right of indemnity in favor of their own citizens, aliens cannot enjoy such a privilege, in view of the fact that when they enter a state they submit themselves to the local law.

Claims arising out of a successful revolution stand upon a different footing. The government created through a successful revolution is deemed liable for the acts of the revolutionists as well as for those of the titular government it has displaced. Its

acts are considered as at least those of a general *de facto* government, for which the state is liable from the beginning of the revolution, on the theory that the revolution represented *ab initio* a changing national will, crystallizing in the final successful result. Carranza's government in Mexico, for example, is liable not only for its own acts while a revolutionary party but also for those of the Huerta government which it displaced.

### Tortious Injuries

Perhaps the largest class of claims against Latin American states arises out of acts of violence or oppression by administrative authorities of the government in times of nominal peace. The readiness with which such claims have often been supported, justly and unjustly, by European governments has led several of the Latin American countries, in their conventions, in treaties, constitutions and municipal legislation, to adopt the rule that every claim advanced by a foreigner, whether against an individual or against the state, must find its final settlement before the local courts, and only in the event of a denial of justice can diplomatic interposition be entertained.

Other more subtle measures have been adopted by these states to avoid the irksome pressure of pecuniary claims of foreigners. For example, legislation often provides that "foreigners are entitled to enjoy all the civil rights enjoyed by natives" and that "a nation has not, nor does it recognize in favor of foreigners, any other obligations or responsibilities than those established by [its] constitution and laws in favor of [its] citizens."

It has already been observed that some states, while admitting the possibility of invoking diplomatic interposition if, after the exhaustion of local remedies, a denial of justice has been established, seek to limit interposition by a restrictive legislative definition of "denial of justice." This device, in practice, has not been efficacious in averting the pressure of claims, because claimant governments insist on determining for themselves, unrestricted by legislative limitations, the existence of a denial of justice.

Other measures which are designed to effect relief from onerous foreign claims are statutory provisions for suit against the wrongdoing officer, without possibility of impleading the state; for the presentation of claims to a domestic commission or board of claims, subject to conditions of varying degrees of severity; or for the imposition of local citizenship and deprivation of alienage

on the performance or omission of certain acts. The provision for matriculation as a foreigner has already been referred to as an attempt, in part, to avoid claims.

### Contract Claims

In the case of claims arising out of contracts, formal interposition, so far as the United States is concerned, is not customary. The good offices, however, of our diplomatic representatives in assisting claimants have generally been authorized by the Department of State. The rule that the government will not interpose officially in support of contract claims has been qualified in numerous cases: (1) citizens of the United States must have free and fair access to the courts for a judicial determination of their rights; (2) interposition will be undertaken if the foreign government arbitrarily annuls the contract without recourse to the courts; or (3) if there is a confiscatory or fraudulent breach of the contract; and (4) the United States has never hesitated to submit contract claims to arbitration, and hundreds of such claims have been arbitrated.

The same policy has been followed by the United States in the case of claims arising out of unpaid foreign bonds. In this field, the Drago doctrine and the Porter proposition, already mentioned, have endeavored to establish a rule of action. Although numerous cases of intervention have occurred in order to collect unpaid bonds, the general rule to the contrary has been supported by the weight of authority in practice, in theory and in the writings of international lawyers.

This brief discussion of pecuniary claims against Latin American countries has not dealt with the important part which this matter has played in the political relations of several of the weaker republics of Latin America. With their growth in political stability and organization it is probable that in the future they will not have to suffer so severely from the onerous burden of foreign diplomatic claims. The movement which has been initiated for the submission of pecuniary claims to an international court of claims, with its potentialities for a greater measure of justice to the claimant, to his own government and to the defendant government, should enlist the hearty support of Latin America.

# Industrial and Commercial Expansion of Latin America

By Marrion Wilcox

The first great period in all the history of the Latin regions of the New World, the period of the Spanish and Portuguese discoveries, extended from 1492 to 1542, or somewhat beyond the latter date. The second great period was the period of emancipation, in the larger meaning of that word. It extended from 1794 to 1902: during more than 100 years the manumission of slaves, the declarations of independence, the wars for freedom, and the struggles to make a success of self-government were the leading titles, so to speak, in a story of enormous human interest. The third great period is the present one — the period of industrial and commercial expansion, in which governmental stability becomes obviously convenient and necessary.

Carefully revised statistics which show the extent of this development as it affects foreign trade, in the opening years of the third great period, will be found in the immediately following paragraphs.

## The Development in Foreign Trade

The total amount of Latin American foreign trade in 1897 was only $910,422,499. By 1915 it had increased to $2,469,047,020, or 171 per cent, with such gain in imports and exports as the following table shows at a glance:

*Growth of Latin American Commerce*

| | Imports | Exports | Total |
|---|---|---|---|
| 1915 | $811,268,634 | $1,657,778,386 | $2,469,047,020 |
| 1897 | 415,079,562 | 495,342,937 | 910,422,499 |
| Increase | $396,189,072 | $1,162,435,349 | $1,558,624,521 |
| Per cent of increase | 95 | 235 | 171 |

But even this table fails to do full justice to the mounting volume of commerce, since the total in 1913, the last normal year before the war, was $2,874,612,151, with imports valued at $1,321,861,199.

It has been well said, in the *Bulletin of the Pan American Union*, November 1916, that the long list of articles imported includes "nearly all the finished manufactured products of either Europe or the United States. The standards of living are practically the same as in other parts of the civilized world." As for the exports, these are "almost entirely raw material for manufacturing purposes and primary foodstuffs, but there are broad differences as to localities of production," the products of the different countries varying in a marked degree. In each republic we note characteristic variations also in the demand for finished manufactured products. (See discussions of commerce, imports, exports, etc., in the chapters devoted to each separate country.)

### Exports from Latin America

The chief exports from Latin America are mentioned in the following list:

From Argentina the exports, almost entirely of the agricultural and meat-producing industries, are wheat, maize, linseed, oats, flour, bran, frozen and chilled meats, hides, wool, skins, meat extracts, butter, and residuary animal products of all kinds. Less important are the exports of quebracho wood and extract, of whalebone, of copper, etc.

From Bolivia the exports are tin, silver, bismuth, copper, rubber, etc.

From Brazil, coffee, rubber, hides, yerba maté, cacao, tobacco, skins, sugar, cotton, gold, manganese, nuts, carnauba wax, monazite sand, etc.

From Central America, coffee, bananas, gold and silver, hides and skins, rubber, indigo, sugar, etc.

From Chile, nitrate of soda, copper, bar silver, hides, wool, chinchilla fur, wax, fruits, wine, grains, etc.

From Colombia, coffee, bananas, tobacco, ivory nuts, rubber, cacao, dividivi, etc.

From Cuba, sugar, tobacco, molasses, distillates, iron and copper ore, hardwoods, hides and skins, honey, beeswax, sponges, etc.

From the Dominican Republic and Haiti, sugar, cacao, tobacco, coffee, bananas, beeswax, hides; minor Haitian exports being cotton and cottonseed, logwood, etc.

From Ecuador, cacao, ivory nuts, " Panama " hats, rubber, coffee, gold, hides, etc.

From Mexico, silver, gold, antimony, mercury, copper, lead, zinc, coffee, rubber, chicle, chick peas, guayule, henequen, mahogany, ebony, hides and skins, etc.

From Paraguay, hides, quebracho extract, yerba maté, hardwoods, tobacco, oranges, etc.

From Peru, copper, rubber, sugar, cotton, wool, hides and skins, " Panama " hats, etc.

From Uruguay, wool, hides and skins, beef extracts, wheat and flour, tallow and other animal fats, residuary animal products, etc.

From Venezuela, coffee, cacao, rubber, balatá, goatskins, asphalt, hides, live cattle, aigrettes, dividivi, etc.

### Commerce with the United States

The Foreign Trade Department of the National City Bank of New York kindly gives us the facts in regard to exports from the United States to Latin American countries reported during the week ended 20 Jan. 1917. It is shown that the value of our exports from the Port of New York to Argentina that week was $1,679,226; to Bolivia $18,565; to Brazil $1,063,408; to Chile $296,793; to Colombia $213,270; to Cuba $1,796,151; to Dominican Republic $357,951; to Ecuador $75,573; to Haiti $287,765; to Mexico $96,113; to Panama $344,140; to Paraguay $5,784; to Peru $261,943; to Uruguay $279,246; to Venezuela $492,728. The interesting quality of this particular statement will be understood more readily if we add the generalization that our exports to the 20 republics named in the first paragraph of the article LATIN AMERICA have practically quadrupled since 1900. The following valued communication from the same source contains statements of fact in relation to the enormous and rapidly growing trade:

" Commerce of the United States with Latin America was over one billion dollars in the fiscal year 1916 against three-quarters of a billion in 1913, one-half billion in 1906 and one-quarter billion in 1900. [A more detailed statement puts the trade with these 20 neighboring republics at $1,150,000,000 in the fiscal year 1916; $765,000,000 in 1913; $563,000,000 in 1906 and $278,000,000 in 1900.]


CARIBBEAN SEA
ATLANTIC
OCEAN
VENEZUELA
COLOMBIA
GUIANA
ECUADOR
PERU
BRAZIL
Amazon


ECONOMIC MAP
OF
SOUTH AMERICA
REFERENCE
Antimony
Asphalt
Coal
Copper
Diamonds
Emeralds
Gold
Iron
Lead
Manganese
Nitrates
Petroleum
Platinum
Silver
Sulphur
Tin
Navigable Rivers
Pacific Ocean
Atlantic Ocean
Argentine Republic
Uruguay
Buenos Ayres
Montevideo
Rio Janeiro
Valparaiso
Concepcion
Bahia Blanca
S Matias Gulf
Gulf of St George
Gulf of Penas
Falkland Is.
Port Stanley
Tierra del Fuego
Cape Horn
Longitude 70° West from 50° Greenwich

Exports to these 20 republics in 1916 were about $410,000,000 against $324,000,000 in 1913, $209,000,000 in 1906 and $111,000,000 in 1900. Imports from these countries were in 1916 about $750,000,000 against $442,000,000 in 1913, $294,000,000 in 1906 and $167,000,000 in 1900. The trade with Cuba, Argentina and Brazil shows the most striking gains. From Cuba the imports of 1916 are approximately $225,000,000 against but $31,000,000 in 1900, and the exports to that island about $128,000,000 in 1916 against but $26,000,000 in 1900. From Argentina the imports of 1916 are approximately $100,000,000 against but $8,000,000 in 1900, and the exports to that country in 1916 about $65,000,000 against $11,000,000 in 1900. From Brazil the imports of 1916 are $133,000,000 against $58,000,000 in 1900 and the exports thereto $41,000,000 against $11,000,000 in 1900. From Mexico the imports of 1916 are approximately $100,000,000 against $28,000,000 in 1900 and the exports thereto, $50,000,000 against $35,000,000 in 1900, the figures for 1916 being about $16,000,000 below those of 1907. Manufactures form the bulk of the exports to the Latin American countries. A close analysis of the trade with South America shows that about 87 per cent of our exports thereto are manufactures and this proportion probably holds good as to the other [Latin American] countries, suggesting that our exports of manufactures to Latin America in 1916 amounted to about $360,000,000 against about $95,000,000 in 1900. Of the $750,000,000 of imports from these 20 countries in 1916, sugar was about $200,000,000, coffee over $100,000,000, hides and skins about $75,000,000, wool about $40,000,000, and rubber about $30,000,000."

We shall presently offer brief analytical statements of the foreign trade of the Latin American republics showing its distribution among the four nations that have taken the lead in this quest. But before coming to that let us give attention to detailed figures of exports from the United States to South America alone for the calendar year 1916, compared with 1915 and 1914. (Consult *The Americas*, February 1917, pages 35–37).

The shipments of cotton yarn to South America out of the port of New York alone in 1916 aggregated over $3,000,000 in value against $626,394 from the whole country in the fiscal year 1915, $51,493 in 1914, and $160,117 in 1913. A large proportion of the yarn exported to South America goes to Argentina; smaller quantities going to Brazil, Chile, Peru, Colombia, and Uruguay. Agricultural implements were formerly among the most important of our exports to South America, the total value of such shipments

having been nearly $7,000,000 in the year preceding the war. In 1914 the total was only $2,000,000, approximately; in 1915 it had increased about $1,000,000, and in 1916 the total to all South America was $4,348,075. The largest South American market for agricultural implements is Argentina, the total to that republic in 1916 having been $3,582,592. Exports of flour from the United States to South America in 1916 were limited to 960,045 barrels against 1,917,344 barrels in 1915, Brazil having been the chief market. The total value of the shipments of automobiles from the United States to South America in 1916 was $5,040,485 compared with $1,862,326 in 1915 and $863,360 in 1914; and the numbers show the increase still more strikingly, having been 8,728 in 1916 compared with 3,537 in 1915 and 1,149 in 1914. The total value of the carriages exported from the United States to South America in 1916 was only $20,963 against $52,427 in 1914; of wagons in the same years, $125,041 and $307,330, respectively. In 1916 the value of railway cars shipped from the United States to South America aggregated $1,278,071; in 1915, $352,619, and $1,422,339 in 1914. The total value of bituminous coal exported from the United States to South America (mainly to Argentina and Brazil) in 1916 was $6,453,493; in 1915 it was $4,783,676, and $1,838,140 in 1914. The total value of cotton cloths exported from the United States to South America in 1916 was $11,973,352 against $3,689,419 in 1915, and $2,215,399 in 1914. This gain occurred chiefly in the movement to Argentina, to which the exports of the calendar year in question were 30,000,000 yards against about 2,000,000 in the fiscal year 1915. To Brazil which grows its own cotton and manufactures much of its own cloths our exports of 1916 were 3,165,561 yards against 701,489 in 1915, and 443,614 in 1914. To Chile the movement of 1916 was 20,844,608 yards against 8,268,161 in the preceding year, and to Colombia 41,039,217 yards against 22,848,135 in 1915, and 11,246,301 in 1914. The value of our exports of binder twine to all South America in 1916 was $1,350,526 against $1,601,480 in 1915 and but $270,401 in 1914, though in 1913 the total to South America was approximately $1,300,000. American locomotives exported to South America in 1916 were valued at $979,503 against $249,507 in 1915, the chief increase occurring in the exports to Brazil. The aggregate value of sewing machines exported from the United States to South America in 1916 was $788,864 against $408,350 in 1915, while of typewriters the total for 1916 was $771,140 against $376,074 in 1915, and $439,670 in 1914. In many other manufactures of iron and steel, there was

also a marked advance. Exports of wrought-iron pipe, for example, to all South America in 1916 amounted to $1,580,785 against $759,226 in 1915; iron sheets and plates in 1916 to $1,850,942 against $1,428,157 in 1915, and $713,893 in 1914. In the trade movement from the United States to South America as a whole, the shipments of tin plate to that continent in 1916 amounted to $3,751,272 against $1,752,760 in 1915, and but $229,992 in 1914, the bulk of this increase having been to Argentina and Brazil. Wire sent to South America from the United States had the total value in 1916 of $7,360,222 against $4,289,877 in 1915, and $1,321,239 in 1914, this increase having occurred chiefly in the movements to Argentina. The statistics of our exports of kid upper leather showed very large gains, especially to Argentina and Brazil, the total to the continent in the year 1916 amounting to $2,019,874 against $1,382,283 in 1915, and $1,057,247 in 1914; similarly, the statistics of exports of boots and shoes showed a total valuation for 1916 of $1,506,974 against $1,333,854 in 1915 and $1,364,148 in 1914. The European demand for meat products interrupted somewhat the usually large movements of lard to South America, the total for the year 1916 having been but $1,386,584 against $1,649,131 in 1915 and $1,421,124 in 1914. Exports of rosin from the United States to the South American continent in 1916 were valued at $2,073,167 against $1,597,618 in 1915 and $1,037,738 in 1914, the principal increase being in the movements to Argentina and Brazil; and exports of turpentine showed a corresponding increase, having been in 1916, $645,707 against $598,372 in 1915 and $461,826 in 1914. The exports of illuminating oil from the United States to all of South America in 1916 were valued at $5,893,206 against $5,928,128 in 1915 and $6,071,999 in 1914, though in lubricating oil there was a marked increase, the total to Argentina, Brazil and Chile in 1916 having been $2,761,618 against $1,972,296 in 1915 and $1,510,867 in 1914. Naphthas, including gasoline and similar products of distillation, were shipped to the same countries in large quantities, the total value in 1916 having been $4,014,960 against but $377,327 in the full fiscal year of 1915. For news print paper the demand upon the United States showed a material increase, the total movements to Argentina and Chile amounting to $1,327,021 in 1916 against $1,231,620 in 1915 and $636,060 in 1914. The total value of the class of American lumber designated as "boards, planks and deals" shipped to all South America in the year 1916 was but $2,448,981 against $3,049,184 in 1915 and $3,719,324 in 1914. Exports of furniture from the United States

to South America in 1916 were valued at $471,575. It is interesting to note that the strong upward tendency does not embrace all items.

### A General Survey of the Foreign Trade and Its Distribution

Under normal conditions before the war, the trade of England, France, and Germany with Latin America extended to all of the 20 republics, with such proportionate shares in the trade of each republic that we are justified in speaking of a more or less even distribution of commercial advantages throughout that general field, so far as these three European nations were concerned. But the position of the United States was strikingly different in this respect, and the trade of the United States was most unevenly distributed. This important, and somewhat difficult, part of the subject must be examined with special care.

The distinguished author of the article in the *Bulletin of the Pan American Union*, cited above, has pointed out the preponderance of the trade of the United States in the northern tier of Latin American countries where, even before the war, its volume was greater than that of England, France, Germany, and all other countries combined; and he writes: "In 1913, for Mexico, Central America, Cuba, Haiti, and the Dominican Republic, imports from the United States represented 54.11 per cent of the total. The percentages of the United Kingdom, Germany, and France were, respectively, 12.33, 9.92, and 6.77 — a total of 29.02 per cent or but little over one-half the imports from the United States. A large part of the remaining per cent (16.87) allotted to all other countries is represented by the interchange of commodities between the Latin Republics themselves — a trade seldom, if ever, competitive with that of the four leading commercial countries mentioned." Some of the northern countries of South America also were sharers in the close transportation-and-commercial relationship that distinguished the northern tier (otherwise expressed, the Central and North American group) of Latin American countries. Thus, in the last normal year before the war the import percentages of Colombia, Venezuela, Ecuador, and Peru were as follows: Of Colombia's total, 26.74 per cent came from the United States, 20.46 per cent from Great Britain, 14.06 per cent from Germany, and 15.45 per cent from France; of Venezuela's total, 38.51 per cent came from the United States, 23.27 per cent from Great Britain, 14.35 per cent from Germany, 6.06 per cent from France; of Ecuador's total, 31.89 per cent came from

the United States, 29.63 per cent from Great Britain, 17.80 per cent from Germany, and 4.92 per cent from France; of Peru's total, 28.82 per cent came from the United States, 26.24 per cent from Great Britain, 17.34 per cent from Germany, and 4.60 per cent from France. But in all the remaining South American republics (i. e., the more distant ones) the imports from the United States were "much less than those from the United Kingdom, and in Bolivia, Chile, Paraguay, Uruguay, and Argentina less than from Germany, and in Paraguay less than from France as well." Such were the salient facts in relation to Latin America's imports from leading commercial countries before the war. Let us now study Latin America's exports to the same countries during the same period.

In the northern tier of Latin American countries — Mexico, Central America, Panama, Cuba, Haiti, and the Dominican Republic — the export percentages then were the following: Exports to the United States, 69.67 per cent, to Great Britain, 12.12 per cent, to Germany, 7.68 per cent, to France, 4.88 per cent. In Brazil the position of the United States in respect to exports was decidedly noteworthy (see the article Brazil), the value of Brazil's exports to the United States being $102,560,000, to Great Britain $41,700,000, to Germany $44,390,000 and to France $38,685,000. But in South America as a whole the export percentages were the following: Exports of South America in 1913 to the United States 25.83 per cent, to Great Britain 24.31 per cent, to Germany 13.95 per cent, and to France 9.05 per cent. The extraordinary changes during the years 1914 and 1915, and the new conditions that have been created since the commerce of Latin America began to recover from the paralyzing effects of the first stages of the war, are reflected and summarized in the following brief statement: Analysis of Latin America's import trade statistics in 1914 shows 23.92 per cent for the United Kingdom and 27.94 per cent for the United States; and in the same year the export percentages were 22.32 per cent for the United Kingdom and 38.20 per cent for the United States. In 1915 the United Kingdom held 21.03 per cent and the United States had 41.82 per cent of Latin America's import trade, while the export percentages were 22.46 for the United Kingdom and 38.65 per cent for the United States. The share of France in Latin America's import and export trade during 1915 was represented by 4.71 per cent for imports and 6.60 for exports.

The share of each of the 20 republics in the foreign commerce we have endeavored to describe is shown in the following tables:

## Table Showing for Each of the 20 Republics the Values, and Distribution of Imports

| Countries | Total from all countries, 1915 | United Kingdom, 1915 | Germany, 1915 | France, 1915 | United States, 1915 |
|---|---|---|---|---|---|
| Mexico | *$85,000,000 | *$12,000,000 | *$450,000 | *$7,000,000 | *$41,071,140 |
| Guatemala | 2,072,476 | 577,296 | 146,052 | 124,492 | 9,771,764 |
| Salvador‡ | *3,000,000 | *700,000 | *80,000 | *250,000 | †2,941,709 |
| Honduras | 1,875,000 | 300,000 | 96,000 | 55,000 | 5,177,000 |
| Nicaragua | 4,159,220 | 302,294 | 36,960 | 138,218 | 2,592,760 |
| Costa Rica | 4,478,782 | 548,810 | 42,979 | 84,132 | 3,031,967 |
| Panama | 9,300,477 | 1,177,291 | 9,628 | 180,135 | 7,009,808 |
| Cuba | 155,448,233 | 15,287,038 | 799,903 | 5,197,110 | 104,729,108 |
| Dominican Republic | 9,118,514 | 630,923 | 95,317 | 93,200 | 7,961,259 |
| Haiti | §4,344,763 | 296,228 | 20,509 | 167,779 | 4,806,654 |
| Northern Tier of Republics | 285,788,503 | 31,821,750 | 1,777,349 | 13,290,066 | 181,182,774 |
| Per cent of imports | 100 00 | 11.13 | 0.62 | 4 65 | 63 40 |
| Argentina | 220,085,951 | 67,748,411 | 5,483,711 | 12,911,330 | 54,474,737 |
| Bolivia | 8,804,081 | 1,417,533 | 419,551 | 165,592 | 1,858,540 |
| Brazil | 146,087,483 | 32,058,670 | 2,254,621 | 7,217,243 | 46,858,795 |
| Chile | 57,922,218 | 18,288,603 | 3,383,589 | 1,700,383 | 18,038,435 |
| Colombia | 18,638,179 | *5,800,000 | *400,000 | *850,000 | 18,080,177 |
| Ecuador | *8,000,000 | *3,000,000 | *200,000 | *500,000 | †3,498,493 |
| Paraguay | 2,333,711 | 771,047 | 161,609 | 56,755 | 210,202 |
| Peru | 15,044,347 | *5,000,000 | *300,000 | 500,000 | †7,903,507 |
| Uruguay | 46,378,925 | *9,000,000 | *350,000 | *350,000 | †7,803,502 |
| Venezuela | 13,470,296 | 2,747,357 | ..... | 654,530 | 7,948,244 |
| Southern Tier of Republics | 525,483,131 | 138,801,411 | 13,153,141 | 24,905,833 | 158,102,885 |
| Per cent of imports | 100 00 | 26 41 | 2 50 | 4,74 | 30 09 |
| Total of the 20 Republics | 811,268,634 | 170,623,161 | 14,930,490 | 38,195,899 | 339,285,659 |
| Per cent of imports | 100 00 | 21 03 | 1 84 | 4.71 | 41 82 |

* Estimated. † United States exports to ‡ Official returns 11 months, 1915. Imports, $4,055,868.
§ Statistics for the part of Jeremie not included.

## Table Showing the Values and Distribution from Each of the 20 Republics

| Countries | Total to all countries, 1915 | United Kingdom, 1915 | Germany, 1915 | France, 1915 | United States, 1915 |
|---|---|---|---|---|---|
| Mexico | *$150,000,000 | *$40,000,000 | *$100,000 | *$5,000,000 | †$83,501,993 |
| Guatemala | 11,666,565 | 1,822,271 | 50,237 | ..... | 6,881,410 |
| Salvador‡ | *10,000,085 | *600,000 | *80,000 | 1,250,000 | †1,864,898 |
| Honduras | 4,828,000 | 1,000 | 600 | ..... | 2,987,000 |
| Nicaragua | 4,597,201 | 448,500 | ..... | 620,684 | 3,679,800 |
| Costa Rica | 9,971,582 | 4,458,223 | 13,225 | 62,975 | 4,864,893 |
| Panama | 3,348,262 | *180,000 | *15,000 | *12,000 | 3,118,734 |
| Cuba | 254,291,763 | 55,033,046 | 7 | 1,135,404 | 206,164,404 |
| Dominican Republic | 15,209,091 | 84,366 | 5,644 | 180,448 | 12,644,271 |
| Haiti § | *13,000,000 | *800,000 | *100,000 | *5,000,000 | †1,494,927 |
| Northern Tier of Republics | 482,776,449 | 70,897,386 | 344,803 | 13,250,511 | 326,052,280 |
| Per cent of exports | 100 00 | 14 68 | 0 07 | 2 74 | 67 50 |
| Argentina | 541,542,993 | 189,627,800 | ..... | 39,144,300 | 87,147,548 |
| Bolivia | 37,132,037 | *25,000,000 | *20,000 | *2,000,000 | †960,182 |
| Brazil | 257,170,854 | 31,096,231 | 110 | 29,285,313 | 107,524,941 |
| Chile | 147,000,004 | 40,582,411 | ..... | 3,554,991 | 50,109,243 |
| Colombia | 29,265,040 | *3,000,000 | *40,000 | *400,000 | 18,943,027 |
| Ecuador | *15,400,000 | *1,000,000 | *30,000 | *1,200,000 | †5,419,363 |
| Paraguay | 8,824,299 | 342,336 | 6,750 | 198,412 | 404,403 |
| Peru | 68,508,128 | *22,000,000 | *40,000 | 1,000,000 | †15,803,688 |
| Uruguay | 70,232,298 | 14,000,000 | 50,000 | 13,500,000 | †14,889,494 |
| Venezuela | 25,406,427 | 2,041,221 | ..... | 2,978,000 | 13,170,145 |
| Southern Tier of Republics | 1,175,481,047 | 301,645,659 | 186,860 | 96,170,782 | 313,528,107 |
| Per cent of exports | 100 00 | 25 67 | 0 02 | 8 05 | 26 69 |
| Total of the 20 Republics | 1,657,778,500 | 372,543,445 | 541,663 | 109,420,293 | 639,580,447 |
| Per cent of exports | 100 00 | 22 46 | 0 03 | 6 60 | 38 65 |

* Estimated. † United States imports from. ‡ Official returns 11 months, 1915. Exports, $10,050,320.
§ Statistics for the part of Jeremie not included.

### Trade between Latin American Countries

We must bear in mind two important facts when considering the limitations of commerce between these republics: In the first place, the Latin American countries, although not wholly non-manufacturing, have developed their manufacturing industries to such a comparatively slight extent that they still depend "almost entirely," it has been truly said, "upon imports from the manufacturing countries for most of the appliances of industry and commerce and also for the conveniences and many of the necessities of life"; and, in the second place, they naturally expect these same countries to purchase the Latin American raw products and foodstuffs. Therefore the values of imports and exports distributed or interchanged within this field seem relatively small.

Argentina's imports from Brazil in 1915 were valued at $10,069,055; from Mexico, $14,664,808; from Uruguay, $1,823,268; from Paraguay, $1,823,268; from Cuba, $845,033; from Chile, $752,952; from Bolivia, $348,094; from Peru, $1,241. The imports from Brazil amounted to 4.6 per cent of the total Argentine imports in 1915, and to 5.5 per cent in the first nine months of 1916. Argentina's exports to Brazil in 1915 were valued at $21,248,098; to Uruguay, $7,318,731; to Paraguay, $1,503,806; to Chile, $1,678,819; to Bolivia, $503,721; to Peru, $264,184; to Cuba, $220,287; to Mexico, $133,090. The exports to Brazil amounted to 3.9 per cent of the total Argentine exports in 1915, and to 4.3 per cent in the first nine months of 1916.

Bolivia's imports from Chile in 1914 were valued at $2,140,045; from Peru, $1,114,845; from Argentina, $1,006,137; from Brazil, $308,340; from Uruguay, $16,083; from Ecuador, $2,408; Bolivia's exports to Chile, $483,774; to Peru, $395,199; to Argentina $345,344; to Uruguay, $5,009; to Brazil, $791.

Brazil's imports from and exports to Argentina and Bolivia are given above. To Chile, Brazil's exports in 1915 were valued at $715,593. From Uruguay, Brazil's imports in 1915 were valued at $2,171,904, and her exports to Uruguay at $4,438,631. In the fiscal year 1914–15, her imports from Cuba were valued at $18,582.

Chile's imports from Peru in 1914 were valued at $5,380,220; from Argentina, $2,164,939; from Brazil, $725,975; from Uruguay, $528,083; from Ecuador, $449,409; from Cuba, $169,821; from Guatemala, $48,525. Chile's exports to Argentina in 1914 were valued at $1,511,508; to Brazil, $151,829; to Peru, $356,882; to Uruguay, $234,379; to Panama, $61,550; to Mexico, $22,797.

Colombia's imports from Cuba during the fiscal year 1914–15 were valued at $137,990, and her exports to the same island at $13,647; her imports from Ecuador, $25,123 in 1914, and exports to Ecuador, $34,249; imports from Peru, $39,797, and exports to Peru, $6,417; exports to Salvador, also in 1914, $3,633; imports from Venezuela, $100,369, and exports to Venezuela, $14,028 in 1914.

Costa Rica's imports from other Central American countries in 1915 were valued at $132,999, and from Colombia, Cuba, Ecuador, Mexico, Panama, and Peru, $257,597; the total of exports to the last-mentioned group being $277,979, and to the other Central American countries, $91,186.

Cuba's imports from Uruguay during the fiscal year 1914–15 were valued at $1,588,847; from Mexico, $1,710,763; from Ecuador, $97,337; from Venezuela, $18,689; from the Dominican Republic, $22,515; from Argentina, Chile and Colombia, as above. Cuba's exports to Uruguay, the same year, were valued at $239,695; to Panama, $111,182; to Peru, $59,363; to Mexico, $61,733; to Brazil, $18,582.

The Dominican Republic's imports from Cuba in 1914 were valued at $12,438, and exports to the same country at $7,029.

Ecuador's imports from Peru in 1914 were valued at $299,128; from Panama, $34,456; from Colombia as above. Her exports to Peru were valued at $84,704; to Panama, $28,856; to Argentina, $20,092; to Chile, Cuba, and Colombia as above.

Guatemala's imports from Cuba in 1915 were valued at $5,318; from South America, $4,119; from Central American countries, $105,943; from Mexico, $4,339. Exports from Guatemala to South America, $357,901; to Mexico, $145,667; to Central American countries, $132,835, and (through the frontiers of Salvador and Honduras), an additional $10,151.

Haiti's imports from the Latin American countries are negligible in amount — estimated at 1 per cent, approximately, in 1915. There are no statistics which could be relied upon to show Latin American destinations of exports from Haiti in recent years.

Honduras imported from Central American countries in the fiscal year 1914–15 goods valued at $113,000. Her exports to the same countries were valued at $53,455.

Mexico's imports from the West Indies during the fiscal year 1912–13 were valued at $123,664; from Central America, $67,432; from Chile, $168,827; from Argentina, $611,244, and from South America as a whole, $959,106. Mexico's exports to the West

Indies during the same year (the latest for which Mexican statistics are available) were valued at $886,066; to Central America, $1,227,552; to South America, $103,640.

Nicaragua's imports from Salvador in 1914 were valued at $3,779; from Costa Rica, $3,299; from Guatemala, $1,553; from Honduras, $1,206. Her exports to Salvador were valued at $27,915; to Honduras, $15,695; to Guatemala, $6,886; to Costa Rica, $1,439.

Panama's imports from all Spanish America were valued at $238,684.48 in 1913 (the latest year for which such statistics are available) and the exports to all Spanish America were valued at $281,067.09.

Paraguay's imports from and exports to Argentina in 1915 were valued at $765,354 and $3,528,186, respectively; imports from and exports to Uruguay, $30,140 and $556,812; imports from and exports to Brazil, $8,904 and $27,432.

Peru's imports from Chile, Cuba, Ecuador and Colombia as given above; from Costa Rica in 1914 they were valued at $21,539; from Salvador, $19,512; from Argentina, $9,404, and from Brazil, $7,862. Peru's exports to Panama in 1914 were valued at $46,069; to Uruguay, $15,918; to Brazil, $14,953.

Salvador's imports from Mexico in 1914 were valued at $29,788; from Costa Rica, $14,577; from Honduras, $2,500; from Guatemala, $1,450; from Ecuador, $1,951; from Nicaragua, as above. Salvador's exports to Panama in 1914 were valued at $43,232; to Chile, $32,329; to Costa Rica, $27,910; to Ecuador, $21,620; to Honduras, $7,234; to Guatemala, $6,711; to Mexico, $280.

Uruguay's imports from Argentina during the six months from September 1915 to February 1916, inclusive, were valued at $3,840,933.20; from Brazil, $2,382,708.64; from Mexico, $80,483.52; from Cuba, $77,526.80; from Paraguay, $43,961.84. The exports to Argentina during the same period were valued at $5,144,450.48; to Cuba, $558,303.20; to Brazil, $411,433.36.

Venezuela's imports from Panama in 1914 were valued at $33,795; from Colombia, $14,028; from Cuba, $1,833; from Ecuador, $550. Venezuela's exports to the Dominican Republic in 1914 were valued at $1,299; to Panama, $832; to Cuba, $561; to Colombia, $100,369.

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# Latin American Tariffs

ALL customs tariffs may be comprehended under two classifications, *ad valorem* and specific. An *ad valorem* tariff is one where the duty collected is a given proportion (per centum) of the commercial value of the articles. For example, shoes pay 20 per cent duty, therefore a pair of shoes worth $4 pays 80 cents duty. A specific tariff is one where the duty collected is on the measure of the article — so much a piece, a pound, a yard, a gallon, etc. For example, shoes pay 80 cents a pair, coal oil $1 a barrel, etc. Occasionally duties are laid both specific and *ad valorem*, shoes 50 cents a pair and 10 per cent *ad valorem*.

The difference between the two kinds of tariffs is not merely in the manner of computing but is fundamental and exerts a great influence on currents of trade and on manufacture. A country accustomed to view tariffs from the standpoint of values finds itself handicapped when called on to operate under a specific tariff. When one has paid duties on 20 grades of shoes worth from one to ten dollars a pair (the duty at 20 per cent being 20 cents on the lowest and $2 on the highest) and finds himself suddenly called on to pay a single rate of duty (a dollar a pair) on all grades of shoes, or, if grades are established, finds the grades to be not value grades but size or material grades, he finds the whole trade proposition changed. It is the same if one be an exporter of shoes to some foreign country which changes from *ad valorem* to specific duties, or *vice versa*.

The economic effect of specific and *ad valorem* differences is a problem which must be worked out separately for each exporting and each importing country, for each line of industry, for each subdivision of the industry, for each article and often for each factory.

The United States tariff is an *ad valorem* tariff (with a few exceptions) and most American industries are built upon ideas underlying this kind of a tariff. Latin American tariffs (except Panama and a very few specialties in other countries) are all specific.

The adjustment of an export trade, originating in an *ad valorem* country, to the exigencies of a specific tariff presents technical difficulties as well as economic difficulties, but neither the one nor the other is susceptible to the application of general rules.

Each case should be submitted to the joint consideration of an expert in manufacture and an expert in the tariff customs and trade conditions of the country to which the goods are to be sent.

There is another side of the tariffs where the novice in exporting is almost sure to go wrong, i. e., in consideration of the economic effect of any tariff, *ad valorem* or specific. Here it is comparatively easy to point out a few general considerations which may prove of value.

The effect of Latin American tariffs on the volume and character of imports from the United States and other foreign countries is very great, yet this effect is frequently, even generally, misunderstood by the American business man in his preliminary inquiries about Latin America as a field for United States exports. Such a one is almost certain to misstate the problem. Accustomed as he is to look at customs tariffs from the viewpoint of protection and knowing the intimate relation which exists between tariff protection and the ability of the foreign manufacturer to enter the United States markets in the face of this protection, he more or less naturally concludes that under the tariff his goods bear the same relation to Latin American countries as English or French goods bear to this country under its tariff. Consequently the first enquiry he makes is — What is the amount of the duty? — believing that on the determination of this fact depends in a large measure the ability of his goods to enter Latin American markets. As a matter of fact not in one case in ten thousand does the rate of the tariff play any part whatever in determining the question whether his goods can enter Latin American markets on advantageous terms. The parity of the rates in the particular schedule, the parity of schedules and the classifications are all important, but the rate itself when applied alike to his and all competing goods is seldom of any importance. The truth is that Latin American tariffs are not protective tariffs, but revenue tariffs. Even in the few schedules, in two or three countries, where the protective feature appears to be prominent, in reality it is not so. It may be taken as axiomatic that there can be no protective tariff where there is no home industry to protect. No matter how high the rate may be, even though prohibitive, it is, in this case, not protective. It may be restrictive — all tariffs are restrictive to some degree — yet it need not limit to any great extent the import of goods. The purpose of all Latin American tariffs is to produce revenue, and revenue is not produced by exclusion. Even where, as in some Brazilian schedules, a protective purpose on the part of the legislative power undoubtedly existed, the domestic industry

not responding to the purpose, left the tariff on a simple revenue base, or a restricted or a prohibitive base as the case might be.

The vital questions which meet the prospective exporter to Latin America are whether there exists or can be created a demand for his goods, and whether he himself can compete in quality and price with others on the same plane as himself, not with others sheltered behind a high protective wall. The wall exists, but the competitors are on the same side as himself. The fact that an article worth one dollar in the United States must pay a duty of fifty cents in Venezuela is not of much economic import to the American exporter provided the consumer in Venezuela wants the article and is willing to pay the increased price. It might be quite different if some one in Venezuela were making the same article, but where there is no competing domestic industry the tariff rate is not of prime importance, provided the facts be that the goods are wanted, the country is able to pay for them, and that imports from all countries stand on the same plane.

The great bulk of Latin American imports, amounting to at the very least 95 per cent thereof, are of goods not manufactured or produced in the countries, or if produced at all not of the grades and qualities of the imported goods. This fact lies at the root of all Latin American tariff questions.

It is said above that all the Latin American tariffs, except that of Panama, are specific. This may not always so appear to the casual reader of these laws. For example the tariff of Argentina as to more than three-fourths of its schedules, and these nearly all the important ones, appears to be *ad valorem*. In reality however only three or four schedules are *ad valorem*. The bulk of Argentine schedules apparently *ad valorem* are made specific by means of a second tariff called the Valuation Tariff (properly appraisement schedules) by which fixed values are put upon goods and upon which fixed values the *ad valorem* rates are computed. The appraisement values being fixed are in most cases necessarily artificial.

For example, pianos in Argentina pay 25 per cent *ad valorem*, but the Valuation Tariff schedules pianos according to their shape into three classes, upright, grand and baby grand. The first is valued at 150 pesos (gold), the second at 500 pesos and the third at 300 pesos. Every upright piano no matter what its true value pays 37½ pesos duty (25 per cent of 150), every grand 125 pesos and every baby grand 75 pesos.

The example will give an insight into the true economic application of Latin American (or of any other) specific tariffs. The

American piano manufacturer makes the three shapes, but the cost and value of the pianos are not in any great degree gauged by their shapes. An upright piano may cost as much and sell for as much as a grand piano, or a very fine upright may be worth as much as three very cheap grands. Apply these facts to the Argentine tariff. An American grand piano worth $600 and a French upright worth the same are entered at the same time in Buenos Aires. Supposing freight, insurance and other incidentals to be the same, $50 in each case, the American piano is cleared through the Custom House costing $771.25 while the French piano stands at $686.38. In other words the American piano has paid a duty of $121.25 and the French piano a duty of only $86.38, and presuming that these two pianos enter into competition the one with the other, the American is handicapped by $84.87 at the start.

So in textiles. The effect of the tariff law in Latin American countries is often to favor one kind or quality of textile as against a certain other kind or quality. The failure to understand these facts is responsible for many of the failures of American exporters in their first ventures in introducing their goods into Latin America. Complaints are sometimes made that English or German manufacturers pay a lower tariff rate in Latin America than do United States manufacturers. This is not true, in fact all American goods enjoy a preferential in one country (Cuba) and a limited list of American goods a preferential in another country (Brazil). For the rest the duties are alike to all. What happens is this: the Englishman or German manufactures to meet the tariff and the American does not. By a slight change in the warp or woof of the textile, not changing its value, its durability, its appearance and perhaps not its cost, the Englishman or German radically changes the tariff status of the textile. The American exporter not appreciating what has been done believes that he has been unfairly discriminated against.

So in metal goods. Small brass or copper ornamentation on steel or iron furniture will often change the appraisement from iron to brass at a much higher rate.

Straw hats with silk bands may pay a rate four times as high as hats without bands. The bands can be shipped separately.

Then again the misnaming of articles frequently throws them into a higher class. Calling leather substitutes leather may make them dutiable as leather. Calling glaze or enamel paint varnish may make it dutiable at the higher rate of varnish. No general rules are applicable in these cases. Each proposition must be studied for itself and for each country.

# General Commercial Regulations in Latin America

By Irving E. Rines

IN many respects the commercial codes of the Latin-American countries are similar, the differences occurring chiefly in minor details. The codes of some countries are quite complete while a few lack many of the features essential to a proper understanding of the principles on which business in general is conducted; for such omissions one must consult the civil, penal and maritime codes, and the various constitutions, though in some cases these are absolutely contradictory. Some countries have based their commercial codes on those of other countries, contiguous or otherwise, and others have adopted foreign codes outright with the few changes necessary to harmonize them with laws already in force. All the codes have been largely influenced by Spanish and French usages and practices, but probably to the greatest extent by the Brazilian code. By law 556 of 25 June 1850, which became effective 25 Dec. 1850, Brazil came into possession of a code which still remains in force, with the alterations introduced by some recent laws. Some claim that this code furnished the basis for a large portion of the old Argentine code of 1855, but even though this contention does not accord strictly with the facts, it at least considerably influenced the shaping of this code and Argentina's later code of 1889. The Argentine code was adopted as the law of Uruguay in a slightly modified form and later was revised by that country to incorporate laws already in force, some sections being entirely deleted, some reformed and others added. The Argentine code furnished the foundation of the Chilean code of 1865, though the latter contains numerous improvements; and in 1903 this same code with all its modifications was adopted in its entirety by Paraguay. The Colombian civil code and that of Chile are identical, the latter, in its treatment of obligations especially, being taken from the French civil code. A large portion of the Venezuelan code of 1904 is based on the French code of 1808 but numerous provisions were appropriated from the German code of 1900 and the Italian code of 1882, while

the Spanish and French laws relating to certain phases of commercial activities served as models for the Venezuelan compilers. The main features of the original Ecuadorean code were taken from the old Spanish laws and the French and Chilean commercial laws in force prior to 1880, but though the code was revised it still possesses a large proportion of the deficiencies of the old code. The present Peruvian code is the Spanish code of 1885 with several substitutions and additions of articles, one section being taken from the Italian code. The chaotic conditions existing in Mexico during the past few years and the promulgation of a new constitution on 5 Feb. 1917 render any statement of conditions in that country practically useless. The codes of Guatemala, Honduras and El Salvador are patterned after the Chilean and Spanish codes, many sections being identical, but they include some features of the most notable codes of Europe and America. In Cuba the code is practically the Spanish code of 22 Aug. 1885 extended to Cuba by royal decree 28 Jan. 1886 but which has been amended by the United States military governors and later by the Cuban Congress. The Dominican code is based largely on the "French Codes of the Restoration." In Costa Rica a considerable portion of the Spanish commercial code still flourishes in all its vigor.

Hence it is possible, only in the most general terms, to elucidate the fundamental principles under which commercial operations may be conducted, and even some of the regulations incorporated in the following paragraphs may not be applicable to all countries, though in many cases discrepancies have been indicated. Manifestly, to include specific and detailed information for each country would be impossible, particularly regarding the registration of merchants, the laws relating to contracts, trade marks, patents, mines, companies, partnerships, etc.; and for such details the codes of each country must be consulted separately. Besides, the laws relating to bankruptcy vary greatly in details as do also the maritime codes; and the questions of admission of oral and written evidence in commercial actions and lawsuits and of the conduct of cases before the various legal tribunals are so widely divergent and involve so many technicalities and niceties as to preclude the possibility of dealing with them in generalities. Furthermore, many phases of commercial life are discussed elsewhere (such as banking, finance, currency, tariff, consular regulations and procedure, credit, taxes and trading licenses, property rights, railroads, insurance, labor, etc.) and for obvious reasons the commercial regulations relating to these subjects are omitted here.

## Acts of Commerce

As defined by the Uruguayan code, the law considers to be acts of commerce in general: (1) Every purchase of an article to resell or to hire out, whether it be in the same state or condition as when purchased or whether it has been given another form of greater or less value; (2) Every bill of exchange, banking, brokerage, or auctioneering transaction; (3) Every transaction relating to negotiable instruments or any other kind of a document transferable by indorsement; (4) Manufactures, commissions, bailment or transport of goods by water or land; (5) Joint stock companies of whatever object; (6) Charter parties, insurances, purchase or sale of ships, tackle, provisions, and everything relating to mercantile commerce; (7) The acts or operations of managers, bookkeepers and other employees, relating to the business of their employers; (8) Agreements as to wages of assistants and other employees. Other codes, such as that of Venezuela, define commercial acts more minutely but probably no more comprehensively. Under the Colombian code the following are presumed not to be commercial transactions: (1) Purchases of articles intended by the buyer for domestic consumption, and the sale of surplus stores; (2) Sales made by farmers and graziers of the produce of their crops or cattle; (3) Purchases made by public officials or employees for the public service; (4) Purchases of articles accessory to the manufacture of works of art or accessory to the mere sale of the produce of handicrafts. Argentina condemns as illegal all gambling transactions such as fictitious buying and selling and the payment of the difference (as in the case of bucket shops). In Colombia a lottery is not commercial transaction, wherefore an association formed by persons not traders for the purpose of conducting such gambling transactions should not be considered a commercial association.

## Merchants

In general terms merchants may be defined as those who, having the free management of their properties under the ordinary law, and the legal capacity to contract, habitually practice on their account as traders, whether as manufacturers, or merely as buyers and sellers (wholesale or retail); whether their operations be confined to the country itself or be carried on abroad; or whether they be engaged in a single branch or in several branches of commerce at the same time. Unless proven to the contrary, all dealings by such persons are presumed to be acts of commerce

and therefore such persons are subject to commercial jurisdiction, regulations and legislation. In Bolivia traders may engage either in wholesale or retail trading but not in both at the same time. Besides free agents, the following persons have the right to trade in Brazil: (1) Minors who have been legally freed or emancipated from parental tutelage; (2) Children over 18 years of age still under parental tutelage who have the parental consent, registered by a notary. If a son 21 years of age has been in business partnership with his father but with the latter's written consent should open a business establishment he shall be considered free from parental or other tutelage and of age for all legal purposes and effects in commercial transactions; (3) Married women 18 years of age if they obtain their husbands' consent, registered by a notary, may trade in their own name, those separated from their husbands not requiring consent. Before beginning to trade, minors, children under parental tutelage, and married women must register their claims to civil qualification in the commercial registry in charge of the commercial councils of their districts. In Uruguay, if the father be deceased, the son must be freed from tutelage in the administration of his estate in the form prescribed by common law. Some countries, as Peru, make the age limit 21 years for single persons and 16 years for married women if consent be given by the husband.

Marriage does not release a female merchant from her obligations. When a female trader marries, she is presumed to have been authorized by the husband to continue her judicial acts unless he publicly and otherwise by circular, advertisement, etc., notifies to the contrary everyone with whom, at the time, she had commercial transactions. A married woman of full age may practise commerce with the authorization of her husband or if there has been a legal separation of property, though such authorization may be merely tacit, but the revocation of such authorization must be a notarial instrument, duly registered and published. The age of a woman trader varies in the different countries, ranging from 18 years in Brazil to 25 in Chile, but in some countries provisions are made whereby women below the minimum age may engage in commerce. In Chile women between 21 and 25 may trade on obtaining from husbands of full age the necessary formal authority, or in default thereof on the authority of a judge. A married woman who does not carry on a trade separate from that of her husband is not considered a merchant (nor in Uruguay the wife of a merchant who merely assists her husband in business). A divorced woman of full age and one who has obtained separation

of property may trade after the registration and publication of such decrees, but a divorced woman between 21 and 25 years of age must obtain qualification of age (emancipation). In Colombia, in order to be able to contract or bind themselves, married women must obtain the consent of their husbands, if not separated in so far as ownership of goods is concerned. If the husband be under age, his curator must authorize the wife to trade if not opposed by the husband; and in such a case, if the wife, too, should be under 21, the authority of her curator is also necessary.

In most countries a wife cannot execute acts of commerce against the wish of her husband nor can she contract obligations on, alienate or mortgage the immovable property of her husband, acquired before marriage, if properly inscribed in the register 15 days after marriage, nor the real property which belongs to both in common unless specifically authorized. In Bolivia, if the authorizing instrument do not empower the wife to mortgage the immovable property of the husband or the common property of both, her dowry and paraphernalia alone shall be liable for the results of her trading venture. This applies also in Colombia, if the wife should trade only by judicial authority or by authority of her curator. In Chile a woman who trades with the expressed or implied authorization of her husband involves her husband's property the same as if the act were his own; she also binds her own property up to the amount of the separate profit which she derives from the act; but on the other hand, the instrument of authorization may limit the liability by excluding the husband's property and that of the conjugal partnership. Neither husband nor wife separately, nor both together, may sell or mortgage the real estate of the wife save in certain instances. Article 159 of the Venezuela civil code provides that if the wife be blameable for a judicial separation, the husband, should he so desire, may control the property of the common estate. In Uruguay a wife authorized to trade may not sue in court either on acts or contracts arising out of her business without the express consent of her husband or, failing this, the consent of the court. In Brazil minors and children under parental tutelage who are traders can validly contract obligations on or mortgage or alienate their real property without being entitled to allege the benefit of restitution.

Among those forbidden to trade in Brazil are the presidents and military commanders of the various states; magistrates appointed for life; municipal judges and judges of orphans; officers of the public treasury; military officers of the first line, of

sea and land, unless pensioned, and also those of the police force; and bankrupts who have not been legally discharged. If they do not make a business of it, however, such persons may lend money at interest and hold shares in many commercial associations provided they do not participate in the management of the association. To the above list Argentina adds clergymen wearing clerical costumes, ecclesiastical corporations, and persons subject to an interdiction; while Bolivia adds persons forbidden to administer their property, married women (in certain cases), persons declared to be infamous (though the punishments of infamy and civil death have been abolished), minors, although emancipated, until 21 years of age, and generally all such persons who by law are forbidden to contract in certain cases. Peru adds exchange agents and commercial brokers of all kinds; Salvador includes immature persons (males who have not completed 14 years and females who have not completed 12 years); and Nicaragua includes those "of notoriously abandoned conduct."

### Registration of Merchants

Most of the countries stipulate that, to enjoy the advantages of the commercial code, merchants must register at the commercial tribunal or some corresponding bureau. Bolivia provides a general guild of traders for which purpose a book of general register is kept in each departmental capital and a book of particular register in provincial capitals, and unless their names are inscribed therein, traders cannot belong to the guild. But in order to register traders must possess 4,000 bolivianos ($1,560) in their business or set aside that amount for starting business. Unregistered traders may continue in business but their legal proceedings must come before the ordinary judges and tribunals according to common law. In Uruguay registration is not indispensable to enable a person to be considered a merchant. If so registered before seeking any of the various privileges permitted by the code, merchants may use their books as evidence in court, may employ the right of applying for composition with their creditors, may exercise the functions of assignee in insolvencies and enjoy the advantage of discharge in case of bankruptcy. Registration entails the filing of documents such as marriage settlements, judgments of divorce or separation, of property, authorizations to minors or wives, powers of attorney, notarial agreements of partnership (except silent or "sleeping" partnerships).

## Mercantile Books

Every merchant, whether registered or unregistered, must keep a regular system of accounts and bookkeeping — particularly a day-book and copy letter book; in some countries a ledger or book of current account and a stock book or book of inventories and balance sheets also are obligatory (and in Peru other books ordered by special laws), but all other books are optional. Associations and companies must keep a book of minutes. The obligatory books must be bound, paged, stamped and initialed on every page by one of the members of the proper commercial tribunal and all books must be kept in the form prescribed by law under pain of various penalties. All entries must be in the language and currency of the country, and a person using another language only is subject to heavy fine and must translate such entries at his own expense. Some countries, as Argentina, stipulate that institutions and traders must keep their books in both gold and paper currencies. Commercial books may not be used as evidence in court if they contain an alteration of the order of date or transaction of the affairs; spaces between entries; unauthenticated interlineations, erasures or amendments; deleted entries; or pages torn out or the binding or paging altered. Traders using books containing any of these defects are subject to a heavy fine, nor may an insolvent trader obtain his discharge if his books have not been inscribed with the "rubrica" or special mark of the commercial tribunal. In Colombia books properly kept do not constitute even *prima facie* evidence in favor of the trader 15 months after the date of a particular entry unless a demand has been made upon the debtor or a protest entered against him, in cases of absence or ignorance of his whereabouts. No tribunal officially may compel the general production and inspection of commercial books save in actions relating to succession, community or joint ownership of property, partnership management or agency and insolvencies or bankruptcies. Most countries provide that merchants must return balance sheets annually but Argentina requires at least once in three years and also that merchants must preserve their books for a period of 20 years, while Peru requires only 5 years; Dominican Republic 10 years. Entries made by subordinates in charge of the bookkeeping in the books of their principals obligate and bind the latter the same as if they themselves had made the entries.

### Brokers

Any person authorized to intervene in commercial negotiations and contracts between traders is a broker. Most countries provide that a broker must be a citizen over 25 years of age (in Argentina 22 years, in Nicaragua 20; Uruguay 21); must have the right to trade; must be registered; must have resided at his address at least one year; must have served in a commercial business an apprenticeship of at least one year (in Brazil 2 years, Peru 3 years, Bolivia 4 years); must certify that he is not an undischarged bankrupt; must never have been condemned of any crime rendering a person incapable of holding public office; and in most countries must deposit, either in cash or securities, a guaranty for good conduct in commercial relationships (in Bolivia 3,000 bolivianos ($1,170); in Brazil 5 contos of reis ($1,622.20); in Peru 20,000 pesos for licensed brokers in the capital and 6,000 pesos in outside places; in Chile 1,000 to 5,000 pesos (peso, paper = $0.18; peso, gold = $0.365), according to locality; in Venezuela 1,000 to 12,000 bolivares, etc. (bolivar = $0.19). Women, minors, dismissed brokers, persons prohibited to carry on trade, persons condemned to corporal or infamous punishment (in Chile), aliens, and foreigners who have not been naturalized (in Brazil) cannot be brokers. Fees are fixed by law and vary slightly in the different countries. In Chile the liability of brokers, by reason of their official transactions, is prescribed in two years. In Brazil a broker who acts deceitfully and fraudulently is guilty of misrepresentation, must indemnify those who lose by such actions, is subject to the loss of all his security deposited as a guaranty, and is criminally liable. Brokers must not directly or indirectly transact or effect any commercial operations on their own account or have any part or interest therein; must not enter a partnership or association of any kind whatsoever; must not take a part or share in ships or their cargoes; must not acquire for themselves or for any member of their families anything given for sale to them or to any other broker; the usual penalty for violation being deprivation of office. No broker may undertake to collect or make payments on account of another on pain of heavy fine. Colombia provides that if a broker intervene in any illegal contract; offer merchandise in behalf of persons unknown in the market; intervene in a contract respecting things owned by a person who has suspended payment; board ships in bays and harbors prior to anchoring or go to meet carters, carriers or waggoners on the roads to solicit the handling of their business, he shall be sus-

pended from office for two years for the first offense, six years for the second, and entirely deprived of office for the third and also held responsible for damages or losses. All countries provide that bankruptcies of brokers shall be held to be fraudulent.

## Agency and Commission

An agency, or a mandate, is the conducting of business by one person under the name of the persons engaging him for such duties, the acts of the former binding the latter, while a commission or consignment exists when a business is conducted either under the name of the agent himself or of his principals. An agent may resign at any time if he be willing to assume any damages (with certain exceptions) to his employers arising from such action, but he may not transfer the powers of mandate to a third person unless authorized. Agents can claim indemnification from their principals for losses sustained owing to defects of the subject matter of the mandate. A commission agent (*factor*) contracting in his own name or the name of his firm or partnership is directly bound to the persons with whom he contracts without the latter having any right of action against the principal, but the agent has the right to accept or refuse a commission, though his refusal must be made within 24 hours and must not prejudice existing business transactions. An agent is not bound to inform the person with whom he contracts of the name of his principal. If he refuse a commission consisting of goods which have been consigned to him he must advise his principal by next mail, and must receive and preserve the goods until the principal has had time to answer giving instructions for their disposal. Traders beginning to carry out business entrusted to them on commission must finish it. In Brazil a principal is responsible for all the acts of his agent within the limits of a mandate whether the latter act in his own name or in that of the principal. If an agent contract expressly in the name of his principal the latter alone is responsible, but if he act in his own name the agent is personally liable even though the business may be on the account of his principal. If a principal, without justifiable cause arising from the faults of the agent, shall revoke a mandate before its completion, the agent must be paid not less than half the commission, whether earned or not. A principal may hold a factor for damages sustained if the latter exceed instructions or transgress commercial usage, but failure on the part of the principal to reply within 24 hours or by second post to the factor's request for advice or authority relating to

some transaction is a presumption of approval, and the factor cannot be held for exceeding instructions. Principals may claim all benefits and savings by a factor in contracts for another's account; no factor, without express permission, may acquire, either directly or indirectly, any goods entrusted to him for disposal, and if, to the detriment of his principal, he should consummate any deals at prices other than those locally current he is liable for damages. A commission agent proven to have rendered an account not in accordance with the entries in his books shall be prosecuted as guilty of theft. For advances made and expenses incurred and for commission fees, commission agents have a preferential credit on goods consigned to them and such goods cannot be disposed of until such debts are paid.

### Contracts

A mercantile contract of sale is a contract by which one individual, whether or not owner or possessor of the subject matter of the agreement, binds himself to deliver it or cause another person to acquire it in ownership, who on his part agrees to pay the stipulated price and who purchases it in order to resell it or lease the use thereof. A sale of chattels is alone considered mercantile when it is in order to resell them by wholesale or retail or to lease their use. The following are not considered mercantile: (1) Purchases of real (immovable) property and chattels accessory thereto, with some exceptions; (2) Purchases of things intended for the consumption of the buyer or of the person on whose order the acquisition is made; (3) Sales by farmers or land owners of the produce of their harvests and herds; (4) Sales of produce and goods received by way of rent, gift, salary, emolument, or any other title whether by way of reward or gratuity; (5) The resale of the remains of the stores which a person may have acquired for his private consumption.

Contracts made by letter shall be considered completed from the time that the person to whom the letter was written answers it, accepting the proposals; a verbal offer of a transaction must be accepted by the person to whom it was made as soon as it is known by him. In Uruguay a contract made by a representative of the person represented is as valid as if made by the person himself. If a person contracting in his own name stipulate for any advantage in favor of a third party, even if unauthorized to represent him, the third party may demand the consummation of the obligation if he accept it and before revocation notify the person liable thereunder. If by means of a contract a person attempt to obligate a

third person whom he is not authorized to represent, the third person, unless he ratify the contract, cannot be held liable; and if he refuse the other person may hold the first person liable for damages. Modification of an original offer has the effect of a new offer. If any of those entering into a conditional contract should die before the fulfilment of the condition, their heirs shall inherit their rights and obligations, unless the condition be essentially personal and cannot be fulfilled by the heirs.

No contract made by persons who do not habitually practise commerce can be commercial, even when it affects merchandise, bills or other indorsable securities. Brazil and most countries provide that contracts made by persons incapable of contracting are null and void, as are also those the subject matter of which is prohibited by law or the object of which is manifestly objectionable to sound morals and good customs; those not designating a definite consideration from which the obligation is derived; those induced by deceit, fraud or pretense; those contracted by a trader within 40 days prior to his declaration of bankruptcy. Infants, lunatics and deaf mutes unable to make themselves understood in writing are incapable of contracting in Uruguay; as are minors under parental control, married women and bankrupt merchants, though the incapacity of these persons is not absolute and their acts can hold good under certain circumstances and conditions, determined by law. Contracts referring to an act morally or physically impossible are void, as are those founded on an unlawful or illicit consideration. Obligations maturing on Sunday or other feast days shall be due on the following day (in Uruguay the day previous). Colombia does not compel a creditor to accept payment before an obligation matures but he may exact security if a debtor be imprisoned for more than one month, abscond from his home, fraudulently deal with his property or find himself on the verge of bankruptcy.

Every document forming a commercial contract must be written in the language of the country; and unless authenticated by the signatures of the contracting parties, erasures, alterations or interlineations will nullify it. The words of contracts and agreements must be understood in the sense which general use gives them, although the person bound thereby claims to have understood them otherwise. When generic terms, which can be applied to different values or quantities, have been used in a contract to denote money, weight or measure, the obligation shall be understood to be contracted in that species of money, weight or measure which is in use in contracts of like nature. In Uruguay, mistake of fact,

under certain circumstances, is ground for nullity of a contract. Uncertain or indefinite offers contained in a prospectus or circular do not bind the person making them. In purchasing goods not in sight and which cannot be classed by any fixed quality known to commerce, it is presumed that the buyer reserves the right to examine them and freely to rescind the contract if the goods do not suit him. If no immediate protest be made that quality and quantity do not conform to contract, the buyer will be understood to renounce all further claim for default of quantity or defect of quality. If a sale be made by sample or by a quality known in commercial usage, which is designated in the contract, the buyer must receive the contracted goods if they conform with the sample or the quality stated in contract; cases of doubt must be decided by arbitrators. If a merchant entrust an employee with the receipt of merchandise bought or coming to his possession by other title and the employee has received the same without objection or protest, it shall be good delivery, unless the principal permits any reclamation, save in certain cases. If a receipt for delivery of goods has been signed without any declaration of shortage or damage, no claim can be made for shortage or damage, provided, of course, the goods are packed so as not to prevent examination; but if goods be delivered in bales or covers which prevent their examination or recognition, the consignee must, within 10 days, present his claim for shortage or damage.

In all cases, if expressly stipulated, the seller must deliver the article sold within the designated time and at the appointed place; failure to do so enables the buyer to rescind the contract or to demand its fulfillment, with damages for delay, in either case, save in instances of unforeseen accident or *vis major*. If a buyer should unjustifiably refuse to receive the articles purchased or omit to receive them within the stipulated time, the seller may apply for a rescission of the contract with compensation for damages or for the payment of the price with legal interest for the delay; in the latter case he must place the merchandise at the disposal of the commercial court so that it may order its deposit and sale by auction for the account of the buyer. If a buyer return the thing bought and the seller accept it, or if it be redelivered against the will of the latter and he make no judicial deposit thereof on account of the owner, with notice of the deposit to the buyer, it is presumed that he had consented to the rescission of the contract. If a buyer have the right to rescind contract, the seller must refund any money paid on account and also pay any expenses occasioned, with legal interest. In case of a dispute over posses-

sion or ownership of the thing sold, the seller at his own expense must defend the validity of the sale before the court, and if unsuccessful must not only refund the price with interest and pay costs of the proceedings but may be compelled to pay for the resulting loss and damage and possibly subjected to criminal prosecution. In some countries a person, who for three years and in good faith has been in possession of a lost or stolen chattel, acquires ownership by prescription, whether the true owner has been absent or present. If anyone sell a thing owned by another, the buyer being ignorant thereof, the seller must refund the price with damages.

Unless specially provided in the commercial code, commercial transactions are governed by the civil law. The following are admitted as evidence in commercial transactions: notarial certificates; brokers' notes or certified extracts from their books; merchants' books; accepted invoices; written or telegraphed correspondence; private documents signed by the contracting parties or by duly authorized proxies; admission of parties and by oath; and witnesses. Presumptions may be admissible. In Brazil, save in a few cases, proof by witnesses is only admissible in commercial courts when actions relate to contracts valued at less than 400 milreis ($216). When actions involve larger amounts, proof of witness is admitted only as subsidiary to other documentary evidence, which provision applies in Peru to contracts exceeding 200 *soles* ($97.20) in value.

### Loans and Interest

A loan is subject to the mercantile laws if the thing loaned be considered of a commercial nature or designed for commercial use and when the contract made is between merchants or persons of that character. In Uruguay a verbal stipulation for interest is without effect in law. Unless the time and place of repayment are specifically stated, the lender may demand payment 10 days after making the contract, and unless specifically stated or contrary to law, interest begins from the day of the demand, even though the demand may exceed the amount of the debt and although the creditor do not prove any loss or damage. In Colombia, Venezuela, Peru and Cuba advances for an indefinite time are only enforceable 30 days after the demand for payment. If a bargain for interest be made without stipulation as to the rate or the time from which it is to run, the parties are presumed to have subjected themselves to the rate obtained by the public banks (or, as in Colombia, to the highest rate payable in the open market) and only for the

time which may transpire after the commencement of the delay in payment of principal; in other cases the average rate is payable. The Colombian commercial code permits compound interest after a year, but the civil code forbids any compounding of interest; private banks and joint stock companies are allowed freely to fix the rates of their discounts, interest and commission. In Uruguay the legal rate of interest is 9 per cent per annum; Ecuador, Cuba and most of the Central American countries allow 6 per cent (and in Ecuador no rate under agreement may be higher than 12 per cent); in Cuba the banks charge interest at the rate of 9 or 10 per cent on commercial paper of small denominations, the rate decreasing as the amount increases, sometimes being as low as 6 per cent.

## Debts

Imprisonment for debt has been abolished in most of the Latin-American countries (but in Bolivia not until 19 Oct. 1905), save in cases of culpable or fraudulent bankruptcy, for default in payment of fines, and for debts arising from guardianship, curatorship and executorship. In Chile if a debtor surrender to creditors all his property or other assets, the following are not subject to arrest (garnishment): (1) Two-thirds of the salaries of the public employees which do not exceed 900 pesos, or if they do exceed this sum then 600 pesos and half the excess above 900 pesos shall not be subject to arrest; (2) The beds of debtor and his family and the clothing necessary to protect these persons; (3) Books, machinery or instruments relating to the profession of the debtor or used by him for teaching any science or art, up to the value of 200 pesos and at the choice of the debtor; (4) The implements of an artisan or farmer necessary for his personal labor; (5) Articles of food and fuel sufficient for one month; (6) Certain immovable property.

## Prescription

Ordinary prescription in commercial matters, unless specifically granted a shorter time, takes effect in Argentina, Venezuela, El Salvador and most of the Central American countries in 10 years; in Brazil and Uruguay in 20 years; and in Chile, Panama, Colombia and Ecuador in 10 years for executory and in 20 years for ordinary actions. Interest on capital loaned and all that should be paid annually or for shorter periods are prescribed in most countries in four years. Actions arising from mortgage of a vessel; actions against traders for salaries, wages or daily earnings or for payment to contractors for work (save Brazil where the

term is one year); actions by brokers for payment of brokerage; actions for nullity of the composition in bankruptcies; and actions demanding the fulfilment of any commercial obligations which can only be proved orally are prescribed in two years. The following are prescribed in most countries by the expiration of one year: actions for indemnity for damages caused by collisions of vessels (Cuba 2); actions arising from supplying provisions, wood, fuel, and other articles necessary for the repair or equipment of a vessel on a voyage or labor performed with the same objects; actions arising from supplies to seamen and other members of a crew by order of the master; actions against a carrier arising from a contract of maritime or river carriage if in transit; actions arising from contracts of agreement with mariners; actions for salaries and wages of a crew. Actions derived from a contract of partnership and from partnership transactions, with certain exceptions, are prescribed in Cuba in 3 years; Peru 4; Uruguay 4; and in Chile, Ecuador, Venezuela, El Salvador, Dominican Republic, etc., 5. Actions arising from any document susceptible of indorsement or to bearer, not being a bank note, are prescribed in Argentina, Peru, Cuba and El Salvador in 3 years; in Uruguay and Bolivia in 4 years; and in Brazil, Chile, Colombia, Ecuador, Venezuela, Dominican Republic, etc., in 5 years. Debts proved by current accounts presented and accepted are prescribed in El Salvador in 3 years; in Argentina, Brazil and Uruguay in 4 years; and in Chile, Colombia, Venezuela, Ecuador, Peru and others in 5 years. The right to claim payment for merchandise sold on credit without a written document signed by creditor is prescribed in Panama, Colombia, Chile and Argentina in 2 years; in El Salvador in 3 years; in Brazil and Uruguay from 2 to 4 years according to residence of debtor. Actions arising from bottomry bonds are prescribed in Argentina in 2 years; in Peru and Ecuador in 3 years; in Nicaragua, Dominican Republic, Ecuador, Venezuela, Chile, and Colombia in 5 years; and in Brazil and Uruguay in 1 year if contracted in the country or 3 years if contracted in foreign countries. Actions arising from a contract of affreightment are prescribed in Argentina and Uruguay in 1 year and in other countries in 6 months. Fees of persons practicing any liberal profession, such as lawyers, physicians and surgeons, professors in colleges and schools, engineers, land surveyors, etc., are prescribed in 3 years. Liability of trustees in bankruptcy is prescribed in 2 years in Chile, reckoned from the closing of the bankruptcy. Colombia and Venezuela prescribe the responsibility of brokers, regarding their official operations, in 2 years; others 3 years.

In Uruguay a mortgage may be extinguished by prescription in 30 years regardless of the person possessing the mortgaged property; in Cuba in 20 years. In Venezuela the claims of a factor against the principal for the payment of his remuneration lapse in 2 years and in Ecuador in 1 year; but in both countries the claims of the principal against the factor for the mismanagement of the commission lapse in 1 year. In Uruguay the possessor of movable property for 6 years uninterruptedly acquires ownership by prescription without the necessity of presenting a title and cannot be opposed for bad faith. This does not include a thief or his accomplices or receivers, who can never acquire prescriptive title. The master of a ship cannot by prescription acquire the vessel on which he serves or anything pertaining thereto.

## Trade Marks

The legal point of view regarding ownership of trade marks differs radically in the Latin-American countries and the United States. Under the common law system known as the declaratory system, use is the basis of property in a mark and in the United States registration merely constitutes an additional means of protecting that property right acquired by use. But the Latin-American countries prefer the attributive system, under which the rights of property in a mark spring directly from the law and depend entirely upon registration of the mark. Usually no investigation as to the right to use a mark is made prior to registration but notice of an application for trade mark rights is always published in the official gazettes. Once granted, registration of a mark is final against later applicants. Most Latin-American countries distinguish the manufacturer's or ordinary trade mark (*marca de fábrica*) which is used to designate the products of a particular factory or manufacturing concern from the dealer's mark (*marca comercial*) which is used to designate the articles handled by a particular dealer or commercial enterprise. Separate registration of the two classes is required in some countries, notably Colombia, Chile, and Venezuela. In a few countries agricultural products are granted a third class of marks. In some countries articles are divided into a number of classes for purposes of trade mark (Argentina enumerates 25 classes) and separate registration is required for articles included in each class. Unless an applicant for trade mark rights appear personally, the appointment of a qualified attorney is usually necessary and the actual work of registration should be effected through the employment of an attorney familiar with the provisions of the various laws.

The granting of trade mark rights confers exclusive ownership for a period of 10 years in Argentina, Chile, Guatemala, Nicaragua, Panama, Paraguay, Peru and Uruguay; 10 to 20 years in the Dominican Republic; 15 years in Brazil, Costa Rica and Cuba; 20 years in Colombia, Ecuador, Mexico and El Salvador; 30 years in Venezuela; and indefinitely in Bolivia and Honduras. The rights are renewable for the same periods upon payment of the necessary fees in all countries save Costa Rica and Ecuador, the renewal period in the former being 10 years and in the latter 15 years. Space limitations preclude the possibility of including the provisions of the laws of all countries and the fees required for the grant and renewal, but the following may be considered typical. Ownership of a trade mark passes to the heirs of a holder and the transfer of same may be made also by contract or by deed of gift. Unless specifically stated to the contrary the transfer of a trade mark is included in the transfer of a business by sale or otherwise, but before action can be taken as the proprietor of a transferred trade mark, such transfer must be registered at the trade mark office. To enjoy protection, foreign trade marks must be registered in Argentina under the same formalities required of domestic trade marks. The application and description of the trade mark must be made in the Spanish language on official paper bearing a one dollar stamp. The fees for registry are $50 national currency for each class for which a mark is to be registered; and $25 for the transfer to another party. The application for trade mark, which must be made on paper of certain dimensions, each sheet of which must be stamped, dated and signed, must be accompanied by an explanation of the mark in duplicate, and 6 to 14 copies of the mark in one color; an electrotype of certain dimensions; a declaration as to the products or trade for which the mark is to be used; the name, residence and occupation of the person applying for the mark; and a certificate of registration abroad, or, should the trade mark not be registered in the country of origin, a certificate proving that the mark has not been registered and evidence that the applicant has an establishment in the home country. The application must also indicate the size and color of the mark and the kind of ink to be used. After the details of an application for trade mark have been published officially for five consecutive days, a term of 30 days is allowed for objections.

Infringement of a trade mark may be punished by various fines and imprisonment of from one month to one year, nor, in most countries, can the prison penalty be evaded by the payment of an increased fine.

## Patents

Authors of new discoveries or inventions have the exclusive right of their exploitation during the allotted period, this applying not only to discoveries and inventions made in the country concerned but also to those verified and patented abroad. Pharmaceutical compounds, financial schemes and discoveries or inventions which may have been used prior to the application for patent protection or which may be contrary to law and good conduct are not eligible for patent protection. In Bolivia devices which tend to change the proportions of things already known or to produce articles which are merely ornamental are not considered to constitute inventions. The duration of a patent varies in the different countries, some countries granting patent rights for a definite period (in Brazil 15 years; British Honduras 14 years) while others grant such rights for various periods (Argentina 5, 10 or 15 years; Panama 5, 10, 15 or 20 years) at the option of the applicant and according to the merits of the invention. Some countries make the maximum period for foreigners less than that for citizens and the period may not exceed the period of protection granted in the home country of the applicant. Some countries provide also what is called "provisional patent protection," obtainable for one year (in Brazil the term is three years) and renewable from year to year; under this protection no similar patent will be conceded to another party without notifying the provisional patent holder who has three months in which to make objections to the patent office. In some countries patents lapse if not exploited for two years after being granted (in others one year, others three years, etc.) or, save in exceptional cases, if their exploitation be suspended for a like period.

The Brazilian process of obtaining patents is typical. The applicant must file in duplicate at the Department of Industry a statement describing the invention, specifying its chief characteristics, its purpose and mode of use, together with plans, drawings and the necessary samples for the exact comprehension of the invention and explanation of the statement. After this the inventor shall petition the minister of industry to grant the patent. The petition must contain the name, nationality, profession, domicile or present abode of the petitioner, the nature of the invention, its purpose or application, in accordance with the documents accompanying the statement; and shall also contain a list of the documents deposited, a full power of attorney if the petition be not made by the inventor himself, the original patent if a patent

granted abroad is to be confirmed, the original patent if improvements are to be made by the concessionaire of the original invention, and a certificate of the first patent if it refer to a patent granted to another party. After examination of the petition, if approved, the patent will be granted by a decree signed by the President. The patent is then published in the *Diario oficial* and the respective parties personally notified to demand their titles, to pay the expenses and dues on same, and to attend the opening of the envelopes containing the documents on the day fixed, which must be within 30 days. When judged to be in order, the statement is published in the *Diario Oficial* and one each of the designs, plans or samples exhibited for 15 days for inspection by the public or persons interested.

Patent infringements are punishable by various fines or from one to six months' imprisonment and the loss of the articles so falsified, without prejudice to any damage suits which may be instituted. The same penalties are imposed on accessories to infringement.

## Mining Laws

Most countries have very liberal nation-wide laws governing the prospecting for and working of mines, but in a few, as Brazil, no general mining laws have been promulgated, each state or department having its own regulations. In Brazil, generally speaking, in order to prospect, application for a license must be made to the governor of the state, or to the secretary of the proper department, giving approximately the region in which the applicant desires to prospect, and indicating the mineral or minerals which are sought (in Bolivia special permission is not required). No license is necessary for gold washing in the numerous rivers but for boring and for prospecting for reefs this document is necessary to both native and foreigner. All minerals are the property of the landowner. If desirous of exploring private lands or those covered by concessions, the prospector and the owner must make an arrangement which must be recognized by the government and the terms of which must not be extortionate on either side. If there be a reasonable probability of the existence of mines on their property, owners must permit prospectors to investigate or do so themselves and report to the government. Persons who might consider their rights infringed by the new concession are granted a certain time in which to make a claim. The person granted the mining concession is given the necessary ground free of charge but must begin operations and

furnish a full report within two years. Quarries can be worked entirely free of taxes by the owner of the land on which they are situated. Mines on public lands are free from all taxes save the percentage charged by the government upon the mineral extracted, varying from 2 to 10 per cent on gold, silver or precious stones, 1 to 5 per cent on copper and manganese, and 1 to 2 per cent on coal and iron. There are laws regarding safety, compilation of reports, taxes payable when the mine is not being worked, payment of fees upon registration, etc.

Bolivia provides that any person having the legal right to enter into contracts may seek as many as 30 mineral concessions (*pertinencias*), each concession being limited to 100 square meters (about 327 square feet) in the direction desired by the applicant but indefinitely in depth. In Chile, governors, administrators and judges may not acquire or own mines in the territories under their jurisdiction; mining claims for precious metals may comprise a superficial area of from 3 to 15 acres, while coal or nitrate claims may range up to 100 acres; and a pit 15 feet deep must be dug within 90 days after registry of the claim, whereas Bolivia provides that if a claim remain unsurveyed and no landmarks be set within 70 days it shall be considered abandoned. In Honduras mining claims may be denounced by any individual up to 1,000 hectares (hectare = 2.47 acres). In Peru the area of a pertinencia for gold, coal, tin, platinum, petroleum, etc., is twice the size of that for other minerals and any one may acquire as many as 60 claims. Colombia provides that so long as taxes are paid no annual work need be done to preserve the locator's rights, which provision tends to retard mining development in that country. Most countries provide that legally acquired mining property is irrevocable and perpetual but if an owner should not comply with laws regulating the filing of claims, etc., and fail to pay the annual tax or patent fees, any person may denounce the abandonment of an application and ask that it be granted to him. In some matters the Colombian government reserves special rights, as in the emerald and salt monopolies. Under the law of 1913 oil wells discovered on Colombian government lands, whether waste lands or otherwise, may not be transferred by the adjudication of such lands to private individuals or corporations but remain the property of the state. Mines on lands belonging to charitable or educational institutions cannot be denounced without the sanction of the owners. In Colombia the payment of 40 years' taxes confers an indefeasible title in fee.

# Railway Transportation in Latin America

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## South America

ALTHOUGH several countries lay claim to having the oldest railway in South America it appears that the first road to be actually opened for service was a line five miles long, finished in British Guiana in 1848. In the next year a line was completed between Caldera and Copiapó, Chile, and in 1857 the first road began operations in Argentina, Brazil following a year later. Since that time construction has been practically continuous, and now every country in South America has its railway system. Naturally expansion of railway transportation has been most rapid in the level plains of Argentina, where rails have been laid at comparatively little expense, and it has made least progress in the west and north, where mountain construction often runs the cost up to more than $100,000 a mile. The railway mileage of South American countries (not including minor private and other lines) is as follows:

| *Country* | *Mileage* | *Country* | *Mileage* |
|---|---|---|---|
| Argentina | 21,325 | Guiana: | |
| Bolivia | 850 | British | 100 |
| Brazil | 16,146 | Dutch | 109 |
| Chile | 5,015 | French | ..... |
| Colombia | 698 | Paraguay | 231 |
| Ecuador | 427 | Peru | 1,900 |
| | | Uruguay | 1,639 |
| | | Venezuela | 530 |

In each country this mileage serves national needs almost entirely, and tourists will find that communication between countries is still largely by coast or ocean vessels.

Travel to South America as a rule follows a well beaten path. The tourist who wishes to visit the chief centres usually travels on one of two routes — down the east coast to Buenos Aires, across the continent to Valparaiso, up the west coast to Panama, and thence to Colombia and Venezuela, or the reverse of this journey, making the north-coast countries from Barbados or Trinidad. If he elects the former route his first stop will probably be at Pernambuco, where most ocean liners serving Brazil

call. Coast steamers will carry him to Pará, Natal, and points between, but the tourist whose time is limited can continue by ocean steamer to Bahía and to Rio de Janeiro. From Rio a favorite trip is that by rail to São Paulo, thence by rail to Santos, where the steamer can again be caught for Rio Grande do Sul, Montevideo, and Buenos Aires.

From Buenos Aires various side trips can conveniently be made, including a visit to Asunción, capital of Paraguay. The only transcontinental line in South America affords rail accommodations between Buenos Aires and Valparaiso, Chile, where the traveler usually takes a boat for the trip along the west coast. If he wishes to visit Bolivia he stops at Antofagasta, reaching La Paz from that port by rail in about 45 hours. *Siroche* or "mountain sickness," however, caused by a too rapid change from the coast to an altitude of over 12,000 feet, may make a more gradual ascent advisable. From La Paz two other railways reach the coast, that leading to Mollendo, Peru, having heretofore had the most passenger traffic.

At Mollendo the sea voyage is continued to Callao-Lima, thence to the northern ports of Peru and to Guayaquil, Ecuador, from which the capital, Quito, can be reached in a two-days' journey. Steamships carry the traveler from Guayaquil to Panama and through the canal to Colón, where connection can be made for Cartagena, Colombia. After possible trips to the interior cities of Bogotá and Medellín, connections are made at Cartagena or Puerto Colombia for Venezuelan ports, the most important of which are Puerto Cabello and La Guaira, from both of which the capital, Caracas, can be reached by rail. As convenient the traveler can then either go to Trinidad or Barbados and catch a north-bound boat, or return to Colón.

It will be seen that on a South American tour of this kind a great part of the travel is by boat, and railways are as a rule of only local convenience. If he desired to do so, however, the traveler could land at Victoria, Brazil, and continue on the route mentioned entirely by rail to Mollendo, Peru.

Most of the railways of South America have been built by European capital, largely English. The equipment is therefore for the most part European. Government ownership and operation are most prominent in Chile, but exist also in Brazil, Argentina, and other countries. There are a multitude of gauges, ranging from the broad 5 feet 6 inches of various Argentine lines to the 2 feet 6 inches of the Antofagasta (Chile) & Bolivia line in Chile, and even narrower private lines. Accommodations for

passengers on many roads, notably those of the larger Argentine and Brazilian systems, are the equal of those in the United States, luxurious parlor-car, sleeping-car, and dining-car service being provided. Fares are variable but for the most part are not excessive. Rates for excess baggage, however, are usually high.

Before reviewing briefly the transportation systems of the various countries, the much-discussed project of the Pan American Railway should be mentioned. This project is the proposed linking-up of existing lines to afford railway service through North and South America, from New York all the way to Buenos Aires. Existing lines could be utilized to the southern border of the United States, and the National Railways of Mexico line would carry the train to the Guatemalan border. Railways now in operation, being built, or projected would afford passage through Central America to Panama, where construction to the Colombian border would involve the conquering of the tropical forest. At the other end of the line there is through trackage from Buenos Aires to Cuzco, Peru, except for a stretch of about 66 miles, now under construction between La Quiaca and Tupiza, Bolivia, and there are various mountain lines in Colombia, Ecuador and Peru which would form links in the completed chain. Much of the construction yet to be effected, however, is in difficult country and it will be many years before the great dream is a reality.

*Argentina.*— The great level plains of Argentina, with their wealth of agricultural and pastoral products, have made the River Plate region the centre of railway expansion in South America. From Buenos Aires a great network of lines stretches out to the north, west, and south, connecting practically every important town or city of Argentina with the capital and bringing the country to a rank of ninth in point of railway mileage among the nations of the world. The following distances by rail from Buenos Aires to other cities of Argentina will illustrate the extent of railway development: To Bahía Blanca, 446 miles; Tucumán, 720 miles; Mendoza, 647 miles; San Juan, 745 miles; Santa Fé, 299 miles; Rosario, 186 miles; Córdoba, 433 miles; Salta, 996 miles; Santiago, 628 miles; Jujuy, 1,006 miles; San Luis, 485 miles; Catamarca, 771 miles; Mar del Plata, 248 miles. Up to the outbreak of the European War the mileage was being steadily extended, but that event practically suspended construction through the curtailment of the supplies of foreign capital necessary for extensive building.

The systems of Argentine railways, with their mileage (excluding private and other minor lines) are as follows: Buenos

Aires & Pacific, 3,535 miles; Buenos Aires Great Southern, 3,792 miles; Buenos Aires Western, 1,870 miles; Central Argentine, 3,305 miles; Córdoba Central, 1,205 miles; Entre Rios, 831 miles; Buenos Aires Midland, 322 miles; Argentine North Eastern, 752 miles; Province Santa Fé, 1,192 miles; Rosario-Puerto Belgrano, 493 miles; General Buenos Aires, 790 miles; Central Northern, 1,790 miles; Argentine del Norte, 1,196 miles; Buenos Aires Central, 252 miles. Most of these systems are owned wholly or in part by English shareholders (English capital having been invested in Argentine railways to the extent of almost a billion dollars), and the securities of the more important roads are quoted regularly on the London Stock Exchange. Of the total mileage the Government owns some 4,000 miles, the longest roads being the Central Northern Railway, running from Santa Fé northwest to the Argentine boundary at La Quiaca, and the Argentine Northern, running from Santa Fé west to San Juan, both roads having several branches. The Government is interested in building and operating railroads chiefly in order to open up new territory, and the roads in many cases are run at a loss.

Argentine railways have three different gauges. The broad gauge of 5 feet 6 inches, said to have been introduced when the first railway builders purchased rolling stock of this gauge which had been used in the Crimean War, prevails on several of the larger roads, including the Buenos Aires & Pacific, the Buenos Aires & Great Southern, the Buenos Aires Western, and the Central Argentine. The middle gauge, 4 feet 8½ inches, is used by the Entre Rios Railway, the Argentine North Eastern, and the Buenos Aires Central. The Government lines mentioned, the Transandine Railway, the Córdoba Central, the Buenos Aires Midland, and the Province of Santa Fé are of meter (3.28 feet) gauge. Freight carried on these roads naturally consists very largely of grain, livestock, and animal products such as wool and hides, but considerable quantities of wine and grapes are carried from the vineyards of Mendoza and other western provinces.

The passenger service of these lines is quite up-to-date, and all the comforts appertaining to modern railway travel are provided. The line of the Central Argentine between Buenos Aires and Rosario has been double-tracked, and the running time between these cities, a distance of 186 miles, has been reduced to 4½ hours. The fare is not excessive. One of the minor drawbacks to railway travel in many parts of Argentina is the monotony of the landscape, some lines running for hundreds of miles over level plains with practically no trees or hills to be seen in any



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In the Snow Cuts of the Trans-Andean Railway



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Train on the La Guayra & Carácas Railway, Venezuela



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Basket Car Approaching the Summit of "Sugar-loaf" Mountain at the Harbor Entrance, Rio de Janeiro, Brazil

direction. The railway system in general is such that every city of consequence in Argentina can be conveniently reached from Buenos Aires, and tourists and commercial travelers find it a good plan to make the capital their headquarters, taking side trips to other centres as may be desirable. The fact that a great part of the import and export business of the country flows through Buenos Aires makes it unnecessary for foreign salesmen to visit many of the outlying cities. Tourists, however, will find it interesting to visit Tucuman, where Argentine independence was declared; Mendoza, the centre of the wine industry; Rosario, second to Buenos Aires as a shipping centre; La Plata, where there are a large observatory and large meat-packing plants; and Mar del Plata, the great seaside resort.

*Uruguay.*— The fact that Uruguay, smallest of South American republics, has some 1,600 miles of railway is an illustration of the progressiveness of the country, as well as the facility in construction afforded by the level or gently rolling character of the land. The chief system is the Central Uruguay Railway, which operates approximately 1,000 miles of track. Its main line and an extension connect Montevideo with the Brazilian frontier and join the Rio Grande system at Sant' Anna. Nearly all lines are controlled by British capital, and as a rule return a good profit. They are for the most part operated under a Government guarantee.

In the third of the river Plate countries, Paraguay, there is as yet but a single line, the Paraguay Central, running from Asunción, the capital, to Villa Encarnación, where it makes connection with the Argentine North Eastern. A branch from Villa Rica to the Brazilian frontier is being constructed, to connect with the São Paulo-Rio Grande Railway and give through connection with the Atlantic Coast. At present Asunción is reached in about 50 hours from Buenos Aires over the road mentioned, or by river boat, the trip upstream taking 5 days and the return trip 4 days. An extension of the Santa Fé Railway of Argentina is being constructed which has for its objective a point in Argentina opposite Asunción, the completed line to be entirely in Argentine territory but giving Asunción another outlet to the sea.

*Chile.*— From Buenos Aires the broad-gauge tracks of the Buenos Aires & Pacific lead away 647 miles to Mendoza, joining there with the meter-gauge Argentine Transandine Railway. This continues 111 miles to the Transandine Tunnel, 2 miles long. The Chile-Argentine boundary line is reached about halfway through the tunnel, and across the line the journey is over the

track of the Chilean Transandine Railway to Los Andes, 47 miles. From there to Valparaiso (83 miles) runs the line of the Chilean National Railway. The whole distance from Buenos Aires to Valparaiso is 888 miles. This Transandine route has made unnecessary the long voyage around the Horn when traveling between Valparaiso and Buenos Aires, the railway trip now being made in two days. The line does not carry a great amount of freight but has a good passenger traffic. During the winter months it is often blocked by snows and the service is consequently very uncertain from June to August.

The character of the railway development of the west coast has been determined by the peculiar contour of the land. Along practically the whole length of the South American continent the high ridges of the Andes lie only a comparatively short distance back from the coast. For the most part, therefore, the railways of Chile, Peru, and Ecuador consist of short lines crossing the narrow strip of coast lands between sea and mountains, here and there climbing over the high passes into the interior plateau.

The chief exception to this is the Longitudinal Railway of Chile, running from Puerto Montt in the south to a point near Iquique (eventually to be extended to Arica). Because of the proximity of the mountains to the sea and their height, railway construction has been exceeding costly and difficult and has required the solution of more engineering problems than construction in any other part of the world. The highest railway in the world is to be found in Peru, a branch of the Central of Peru Railway reaching to the height of 15,865 feet, while farther south, in Bolivia, a branch of the Antofagasta (Chile) & Bolivia Railway running to Potosi attains 15,814 feet. So far the rail connection between Buenos Aires and Valparaiso is the only one affording transcontinental service, but, as mentioned above, the completion of 66 miles of track between La Quiaca and Tupiza will open another through route. Work on this connection has been carried on intermittently for several years. A third route will be opened when Bolivia's railway system is extended to meet the track of the North Western of Brazil Railway, practically completed to the border town of Corumbá. Another transcontinental line, to run from Bahía Blanca, Argentina, to Talcahuana, Chile, has been discussed, but no active work is being done on it. There is already a road from Bahía Blanca to Neuquén, in Argentina.

Of the 5,000 miles of railway open in Chile about 3,200 miles are owned by the government, Chile being the only country in South America that has an extensive government-owned system.

These roads are for the most part operated at a loss. The private lines are mostly "nitrate" railways, owned and operated by the companies exploiting the nitrate fields in north Chile.

*Bolivia.*—The country of Bolivia, entirely cut off from the sea, has three rail connections with the coast, two of these being through Chile and one through Peru. The lines through Chile run from Antofagasta and Arica to La Paz, and that through Peru to Mollendo. The southernmost line is that of Antofagasta (Chile) & Bolivia Railway, from Antofagasta to Oruro, Bolivia, a distance of 575 miles. From Oruro the Bolivia Railway, leased by the Antofagasta Railway, leads to Viacha, 125 miles, and the rest of the distance to La Paz, 19 miles, is covered by a line constructed by the Antofagasta Railway, as well as by two others. The whole distance of about 720 miles is covered in 45 hours. The second line to the coast is the Arica–La Paz line of 248 miles, of which 28 miles is rack road. The time required for the trip to La Paz from the coast is about 25 hours and for the journey in the other direction 15 hours, the first-class fare being about 6½ cents a mile. The third line to the sea is through Peru to Mollendo, the total distance being 534 miles and the running time about 29 hours to the coast, part of the journey being made by steamer on Lake Titicaca. This road is the Southern Railway of Peru, which also operates a branch from Juliaca to the ancient Inca capital, Cuzco, 210 miles, a favorite objective of tourists. While most of the traffic to and from Bolivia has been by way of the first and third of these routes, the second is considerably the shortest and there is, moreover, one of the best harbors along the Pacific coast at Arica. The line was opened in 1912 and is expected to build up a volume of business between La Paz and the coast that will equal that of its older competitors.

*Peru.*—Besides the Southern Railway, Peru has one other line that climbs the Andes from the coast. This is the famous Central Railway of Peru, one of the most wonderful railways in the world because of the number and character of the engineering difficulties overcome. It was surveyed and partially completed by Henry Meiggs, an American engineer, at an enormous cost. It runs from the port of Callao to Oroya, 138 miles, with an extension to Huancayo, a further 70 miles to the south. The main line passes through 57 tunnels and reaches a height of 15,665 feet, a branch to Morococha going 200 feet higher. This branch, as noted above, is the highest railway in the world. At Oroya the Cerro de Pasco Railway leads to the town of that name, the site of an important American copper mining enterprise. Besides these

railways there are various shorter lines, chiefly connecting the agricultural valleys of the coastal regions with Pacific ports.

A large part of the mileage of Peruvian railways is controlled by the Peruvian Corporation, a company formed in 1890 by European holders of Peruvian securities, the payment of interest on which was in default. The agreement between the Government and the Corporation is such that the latter dominates the railway situation in Peru. The company is interested in new construction, and has surveyed for the Government a line to run from Tiripata, on the Southern Railway, to the Madre de Dios River, which will open up a through rail-and-water route to the Atlantic. Other trans-Andean lines are projected in the northern and central sections of Peru.

*Ecuador.*—The only railway of importance in Ecuador is the Guayaquil & Quito line, built, owned and operated by Americans. This line is another example of daring mountain construction. It has a total length of 287 miles and the journey to Quito takes two days. There are also railways inland from the ports of Bahía de Caracas, Manta, and Bolívar, and lines are projected from Quito to the coast and from Ambato, on the Guayaquil & Quito Railway, to Curaray in the interior, which will open up the rich tropical sections of the Amazon Valley in Ecuador. Work on the latter line is proceeding slowly.

*Colombia.*—In the north-coast countries of Colombia and Venezuela railroad building has made little progress, partly because of the mountainous character of the country and partly because of the fact that each country is but sparsely inhabited. In Colombia the main arteries of travel are still the rivers, particularly the Magdalena, and nearly all railways lead off from this river or from the seacoasts. The foreign traveler usually lands either at Cartagena (thence reaching the river by rail at Calamar, 62 miles away), or at Puerto Colombia, going thence to Barranquilla, a rail distance of 17 miles. A river boat carries him to La Dorado, where the Dorado Extension Railway leads around a series of rapids to Puerto Beltran, the river voyage being then continued to Girardot. The rest of the journey to Bogotá, the capital, is by railways of two different gauges, a distance of 109 miles. From Bogotá two short lines lead out north and southeast, besides the line running to the Magdalena River. The Antioquia Railway, nearly completed, connects Medellín with the Magdalena, and a short line leads out from the river port of Puerto Wilches, to be eventually continued to Bucaramanga. Isolated lines serving local needs include the Cucuta Railway (44 miles) in the east,

the Santa Marta Railway (92 miles) in the north, and the Cauca Railway (103 miles) in the west. A short line running from the Magdalena at Girardot to Espinal completes the list. The railway construction program of Colombia includes the completion of the lines from the Magdalena to Bucaramanga and to Medellín, the continuation of the Cauca Railway to Popayan, the connecting of the Cucuta Railway with the Magdalena, the building of a line from Medellín to the Gulf of Darien, and the construction of a line from Girardot to Cali, thus giving Bogotá access to the Pacific.

*Venezuela.*— The 530 miles of railway in Venezuela are all of 3½ feet gauge or less, and serve the regions along the coast. The chief line is the Great Railway of Venezuela, a German road of 111 miles running from Caracas to Valencia. It was a costly road to build, having 86 tunnels and 212 bridges. Both the terminal cities of this road are connected with the coast, Valencia by an English-owned railway of 34 miles running to Puerto Cabello and Caracas by the La Guaira & Caracas line, also English, which in its 23 miles passes over 10 bridges and through nine tunnels, and climbs 5,000 feet. The Bolívar Railway (109 miles) connects the interior city of Barquisimetro with the coast at Tucacas, and is important as a carrier of copper ore from the mines at Aroa, about 50 miles from Tucacas. This road is also English-owned as is the Central Railway (46 miles) running southeast from Caracas. Most of the other railways, penetrating short distances into the interior from the coast and from lake Maracaibo, are financed by Venezuelan capital, three being Government-owned. Several projects for new railways have been talked of, but extensive construction will have to await the development of the country.

*Guiana.*— In British Guiana there are about 100 miles of railway, the chief line being that from Georgetown to New Amsterdam, 60 miles long. Dutch Guiana has a single road of about 109 miles.

*Brazil.*— Brazil, a country whose great expanses have as yet not even been fully explored, holds great promise for future railway construction. There are now some 16,000 miles of railroad in the country, and lines projected and under construction when the European War broke out would have added 8,000 or 10,000 miles more. Existing lines, with one notable exception, have naturally been laid where the country is most thickly settled, that is, in the coastal regions and the immediate hinterland, and the great interior plains and forests are penetrated by only one line that has connections with the coast. Construction has been most

in evidence in the more productive section, comprising the agricultural and mining states of the south. Almost one-half of the total mileage of the country is owned by the Federal Government, although most of this is leased. The gauges of Brazilian railways range from 2 feet to 5 feet 3 inches, but about 90 per cent of the mileage is meter gauge.

The chief economic value of these railways heretofore has been to bring the products of each general section to the coast, and communication between northern, southern, and western states is still largely by ocean or river steamer. The traveler visiting the several coast cities has little use for the railways until he reaches Rio de Janeiro. From Rio the usual journey (requiring all of one day), is by rail to São Paulo, one of the most thriving commercial cities of South America, and then to the coast again at Santos, where steamer connection is made for southern Brazil and the river Plate. However, the traveler, if he wishes to do so, can reach both Uruguay and Argentina by rail from Rio de Janeiro. Sleeping and dining-car service is provided, but the rates are high.

The line that connects the capital with many of the important cities of southern Brazil and the oldest line in the country is the Central of Brazil Railway, whose broad and meter gauge tracks lead to São Paulo in the southwest and to Bello Horizonte and other important centres in the north. It is government-owned, and returns a large annual deficit. The country's best-paying line is the São Paulo Railway, running from Santos to Jundiahy via São Paulo, which carries a tremendous freight of coffee annually. There are two tracks over the 50 miles between São Paulo and Santos, and grades of 8 per cent are surmounted by means of endless-cable systems. Other important lines of this region that should be mentioned are the Mogyana, Sorocabana, Paulista, South Minas, West of Minas, and Brazil Railway systems. The last named is the comprehensive system controlled by a company known as the Farquhar Syndicate, incorporated in Maine, which carried forward ambitious development plans that involved railway construction or control in Brazil, Uruguay, Paraguay and Argentina. This development, however, was largely suspended by financial difficulties on the outbreak of the European War, and the company passed into the hands of a receiver. The southernmost states of Brazil are served by this line and by the Great Southern, the region to the north of Rio de Janeiro by the Leopoldina Railway, the region around Pernambuco by the Great Western, the state of Ceará by the Brazil North Eastern, and Bahia by the State

of Bahía Southwestern. There is at present no through rail connection between north and south, but it is planned to have the Central of Brazil extended eventually to Pará, thus affording railway communication for all the states on the Atlantic seaboard. Construction is also reaching out toward the western plains, and a transcontinental line through Bolivia will eventually be built.

Far removed from all other lines is the Madeira-Mamore Railway, 1,800 miles into the interior, which spans a series of rapids in the Madeira, Mamore, and Beni Rivers. These rapids are the only obstruction to river traffic from the interior of Bolivia to the Atlantic, and the road of 225 miles was constructed (with great difficulty and only after repeated failures) to afford an outlet for the products of eastern Bolivia.

## Mexico and Central America

*Mexico.*— Before the revolution broke out in 1910 Mexico had witnessed a steady expansion of its railways, which formed a network that afforded an outlet for the products of almost all parts of this potentially wealthy country. In the years that followed the overthrow of Diaz not only has new construction been materially diminished (though not entirely suspended) but millions of dollars' worth of track and rolling stock have been destroyed. In normal times the country is well served by its railways. It has about 16,000 miles of railway, mostly standard gauge (4 feet 8½ inches) of which about 7,300 miles are owned or controlled (but not operated) by one system, the National Railways of Mexico. The Government organized this system by combining the National Railroad of Mexico and the Mexican Central, in 1908, and later adding the Mexican International, the Vera Cruz & Isthmus, and the Pan American. The Government owns 50.3 per cent of the ordinary stock and thus has full control. The principal line of the system runs from Nuevo Laredo, on the northern border, through the states of Nuevo Leon and San Luis Potosí on down to Mexico City, with several branches east and west.

Other important lines of Mexico include the Southern Pacific of Mexico, running from the northern border through the western States of Sonora and Sinaloa to Tepic, whence it will be continued to join the National Railways of Mexico at Guadalajara; the Mexico North Western Railway, one of the two lines joining El Paso and Chihuahua; the Mexican Railway, running from Vera Cruz to Mexico City, with several branches; the Kansas City, Mexico, and Orient Railway, which when completed will join Kansas City with

the port of Topolobampo on the Gulf of California; and the Tehuantepec National Railway, running from coast to coast between Salina Cruz and Puerto Mexico. The only isolated system is the United Railroads of Yucatán, and a line is projected which will join this with the other railways of the country.

Mexico has a carefully worked out body of railway law, and the Minister of Communications is assisted by a standing advisory Railway Commission of nine members.

*Central America.*— In Central America through connections from ocean to ocean are afforded in three countries, Panama, Costa Rica and Guatemala (considering Panama a part of Central America). On these and other Central American lines the traveler will find some of the finest scenery attending railway travel anywhere in North and South America. Both freight and passenger rates are high, but the service in general is good. The oldest and best known line, the Panama Railway, has been carrying immense amounts of traffic across the isthmus since it was opened in 1855, and its earnings have been very large. It is 47 miles long, and the trip between the Atlantic and Pacific terminals is made in about 1¼ hours. From Port Limón, in Costa Rica, the 3½ foot gauge Costa Rica Railway (leased by the Northern Railway of Costa Rica) carries the tourist through wild and beautiful country to the capital, San José, in some five or six hours, a daily service being maintained in both directions. The fare is $3.90 gold. Over another line the traveler may also reach the Pacific coast at Puntarenas, 69 miles from San José, in about the same time. The freight traffic of these Costa Rican railways is very largely made up of bananas and coffee shipped by the United Fruit Company. A system that promises much for the future development of Central America is that of the International Railways of Central America. This now includes the lines joined to make the ocean-to-ocean route from Puerto Barrios, on the Atlantic, to San José on the Pacific, together with a branch at Santa Maria and a line running westward from La Union, Salvador. When projected roads are completed the International Railways will have continuous track from the Mexican border to Panama, which will complete the North American part of the Pan American Railway.

The railway mileage of the countries of Central America is as follows: Panama, 202 miles; Costa Rica, 450 miles; Nicaragua, 200 miles; Salvador, 184 miles; Honduras, 300 miles; Guatemala, 500 miles.*

*These figures, which are approximate only, are taken from *Railway Expansion in Latin America* by Frederic M. Halsey.


ALASKA
UNITED STATES
ATLANTIC
OCEAN
MEXICO


COMMUNICATIONS
AND
COMMERCIAL LANGUAGES
OF
AMERICA
English
Spanish
French
Dutch
Portuguese
Principal water routes
BRAZIL
BOLIVIA
URUGUAY
ATLANTIC
OCEAN
PACIFIC
OCEAN
Valparaiso
Buenos Ayres
Rio de Janeiro
Santos
Porto Alegre
Montevideo
Falkland Is.
15
30
45
60
150
135
120
105
90
75
60
45
Longitude West from Greenwich

# Ocean and River Transportation

By Otto Wilson

## South America

THE fact that a large part of the foreign trade of South America has been with Europe has caused a great development of ocean transportation service between the two continents. Up until a few years before the European war, in fact, the only regular communication of any importance between South America and the outside world was over the lines of ships that ran to European ports. It was customary for passengers bound for South America from the United States to go by way of Liverpool or Hamburg, and a great deal of freight was also routed via these ports. While this has decidedly changed, and the United States enjoys reasonably good freight service with South America, it is nevertheless true that in normal times transportation facilities to and from Europe are immensely better than to and from the United States. This is due in large part to the nature of the resources and commerce of Europe, South America, and the United States. South America is distinctly a continent of raw materials, while Europe is a producer of manufactured articles and has been, moreover, an investor of immense amounts of capital. A heavy volume of oversea traffic and a consequent growth of shipping was therefore very logical. The United States, on the other hand, has until recent years supplied itself with most of its foodstuffs and other raw materials, and has also not actively sought foreign markets for its factory products. Direct transportation facilities to South America, therefore, have been in demand only in a comparatively few years, and the freight and passenger traffic, even after direct service was well established, has been carried almost wholly in foreign bottoms. Before the beginning of the European war a triangular trade route had been evolved by which vessels carried manufactured goods from Europe to South America, coffee, hides, and a few other staples from South America to the United States, and various American exports to Europe. The radical changes resulting from the war, together with the steadily increasing interest of the United States in South American trade, will undoubtedly cause the establishment of more ample direct facilities between North and South America, which in time will rival the facilities heretofore enjoyed by European countries.

After the outbreak of the war in Europe in 1914 shipping service to South America was of course anything but normal. The price of charters advanced as much as 1000 per cent, and ships were often not to be had at any price that would justify the dispatch of cargo. Any description of shipping conditions during the war would give little indication of the ordinary state of ocean transportation. The following account will therefore be confined to a review of the service offered immediately before the beginning of the war, although most of the lines mentioned have maintained a more or less interrupted service during its continuance.

European shipping, carrying mostly foodstuffs, hides and skins, and similar commodities to Europe, has been much more in evidence in the ports of Brazil and the river Plate than on the west and north coasts, and scores of vessels, some of them registering as high as 20,000 tons, have come and gone at all seasons of the year. The port of Buenos Aires saw its business grow so rapidly that elaborate construction of docks was hardly sufficient by the time it was completed to take care of the growing traffic. In 1913 a total of 700 passenger-carrying vessels entered the port from overseas, bringing 316,000 passengers. Many of the large liners that reached Buenos Aires put in also at Rio de Janeiro and Montevideo, and these also were busy ports. Liners flying the flags of European countries, together with the ships of one Brazilian line, afforded most of the regular communication between the east coast and New York, and the American flag, carried only by an occasional sailing vessel or tank steamer or the monthly vessels of one American line to Brazil, was counted a rarity along the east coast.

England has enjoyed the bulk of South American trade and English lines have been more numerous than any other. The Royal Mail Steam Packet Company was perhaps the most prominent of these. It maintained a weekly service, its modern steamers of 15,000 tons and more making the voyage from Liverpool to Buenos Aires in 18 days regularly, and on occasion covering the distance from Cadiz, Spain, to Rio de Janeiro in 11 days. The Lamport & Holt Line had passenger and freight steamers running to the river Plate both from New York and from English ports, and steamers of the Booth Line plied regularly between England and north Brazil and Amazon ports, and between New York and these ports. Other lines offering service between the east coast of South America and England were the Harrison Line, the Houston Line, the London & Northern Steamship Company, Ltd.,

the Blue Star Line, the British & Argentine Steam Navigation Company, Ltd., the Nautilus Steam Shipping Company, Ltd., the Nelson Line, the Prince Line, and a line operated by the New Zealand Shipping Company, Ltd. and Shaw, Savill & Albion Company, Ltd. All these sent their ships to the river Plate, and the Royal Mail, in addition, had regular boats to Venezuela and to Panama, offering service, through transshipment, to the west coast. Direct service to the west coast was maintained by the Pacific Steam Navigation Company, a subsidiary of the Royal Mail. The fastest of the river Plate steamers made Lisbon in about 14 days and Southampton in 17 days from Buenos Aires, and the first-class fare ranged from $110 to $160.

Next to the English the ships of the Italian lines were most numerous in traffic to the east coast. This was due to the large movement of Italian immigrants into Argentina and Brazil, many of them going over for the harvests and returning to Italy to spend the rest of the year at home. Those who settled permanently brought their tastes with them and the demand for Italian articles built up a trade of considerable proportions. The following lines maintained a service consisting mostly of monthly sailings each way between Italian ports, usually Genoa and Naples, and the river Plate: Italia Line, La Veloce, Italian Lloyd, Lloyd del Pacifico, Lloyd Sabaudo, Navigazione Generale Italiana, Ligure Braziliana, and Sicula-Americana. The German flag was carried by the large vessels of the Hamburg-South American and the North German Lloyd to Brazilian and Argentine ports, and by the Roland line to west-coast ports. The first-named line maintained a weekly service to European ports, including Lisbon, Vigo, Southampton, Boulogne, and Hamburg, calling at Rio de Janeiro on the way and covering the distance between the river Plate and Lisbon in about 16 days. The first-class passenger fare to Europe was about $160. Regular liners were also to be seen in the river Plate in weekly, fortnightly, or monthly service from France, Denmark, Holland, Spain, Belgium, and Sweden, and even the interior countries of Russia and Austria-Hungary found it desirable to maintain a regular service through their own national lines. Besides the regular boats there were a large number of tramp steamers and sailers and specially chartered boats plying between Europe and the river Plate, for the most part carrying grain and livestock products from Buenos Aires, Rosario, San Lorenzo (near Rosario), and Bahía Blanca, and bringing back coal and miscellaneous cargo.

Between the United States and the river Plate six steamship

lines, all British, offered freight service and one or two of these also carried passengers. These were the Lamport & Holt (the only important passenger-carrying line), Barber, Norton, Houston, Prince, and American-Rio Plata lines. They maintained a fortnightly or monthly service from New York, stopping at Brazilian ports in one or both directions. The United States and Brazil Line, flying the American flag, was established primarily to carry the products of the United States Steel Products Company to Brazil and bring back manganese for steel manufacture, but it also offered general cargo service. The Booth Line had sailings from New York to Para, Manaos, and Iquitos, and also on occasion to ports on the north coast of Brazil, and the Brazilian line, the Lloyd Brazileiro, operated between New York and all the important Brazilian ports.

The west coast enjoyed adequate ocean transportation facilities, both to oversea countries and between the various coast ports. The regular European lines included the Kosmos and Roland Lines, flying the German flag, the three English companies, the Pacific Steam Navigation Company, Gulf Line, and Lamport & Holt, and the Johnson Line, maintaining service to Denmark and Norway. To the United States ships of three lines sailed regularly from west-coast ports — the Merchants, West Coast, and New York & South America lines, each with sailings varying from one to two months apart. These lines made the trip around the Horn until the opening of the Canal, but now go by way of Panama. Between Japan and the Pacific coast the large ships of one line, the Toyo Kisen Kaisha, provided regular and adequate service. In the coasting trade between the ports of Chile, Peru and Ecuador three companies maintained regular schedules, the Pacific Steam Navigation Company, the Compania Sud Americana de Vapores (Chilean), and the Compania Peruana de Vapores y Dique del Callao (Peruvian Steamship and Drydock Company of Callao). Ships of the Kosmos Line and others sailing to transoceanic ports also made stops at the important ports of the west coast and carried more or less coasting traffic. Besides these regular sailings there were a large number of tramp steamers and sailing vessels taking nitrate from Chile to Europe and the United States or bringing coal from Australia and Wales.

The flags of more than half-a-dozen countries were carried on the ships of the regular lines that served the ports of the north coast. Spain was represented by the Cia. Transatlantica de Barcelona, Italy by La Veloce, France by the Cie. Generale Transatlantique, Holland by the Royal Dutch West India Mail, Ger-



Shipping in Port of Callao, Peru



The Harbor, Vera Cruz, Mexico



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A Portion of the Harbor of Montevideo, Uruguay

many by the Hamburg American, England by the Harrison and Leyland Lines, the Royal Mail Steam Packet Company, and the United Fruit Company (British vessels sailing from United States ports), and the United States by the "Red D" Line. The ships of most of these lines touched at ports of both Venezuela and Colombia, usually, however, going in one direction, New Orleans or New York being visited either before or after the Caribbean ports on the round trip from Europe. The United Fruit Co. had sailings only to Colombia, and the Red D Line and the Royal Dutch West India Mail visited only Venezuela.

In Venezuela, La Guaira and Puerto Cabello were the chief ports of call, the cargo to and from Maracaibo, the important coffee district, being transshipped at Curacao, and a good part of the trade of Ciudad Bolívar and the Orinoco being handled through Trinidad. In Colombia either Cartagena or Puerto Colombia, the port for Barranquilla, was visited by the liners serving the country, and in addition the port of Santa Marta became prominent because of heavy shipments of bananas. Barranquilla, the most important commercial city of the Colombian Republic, is shut off from the ocean by a great bar at the mouth of the Magdalena, which permits the entry of boats of lighter draft only. Various projects have been discussed and contracts have even been let for dredging and maintaining a channel through this bar, but this has not been accomplished so far and cargo must come and go through Puerto Colombia.

The various lines carrying the commerce of the United States with South America may be said to have furnished a fairly adequate service, and in the main their ships were ready to carry all the cargo that offered. There has been considerable agitation in recent years for the establishment of American steamship lines to carry freight and passenger traffic between the United States and Latin America, but this has arisen from a desire for many advantages derived from a national service rather than from a conspicuous inadequacy of cargo space. Nevertheless there is little question that American-owned vessels would do much to assist in the upbuilding of United States trade with Latin America. American lines could expand their service with the increasing demands from American shippers, and could adopt policies that would directly encourage a steady trade increase. A faster schedule with more frequent sailings of passenger vessels to Brazil and the river Plate would help to bring shipping communications from New York to a par with those from Liverpool, Hamburg, and Genoa. A constant community of interest between American indus-

tries and the companies which transported their products to Latin America would work for as great an expansion of both trade and shipping as could reasonably be expected under normal conditions of competition. It is probable that with the growth of interest in foreign trade in the United States the establishment of American-owned lines to all parts of Latin America will be a question of only a short time.

The time now required for the voyage from New York to Buenos Aires is 24 or 25 days, to Rio de Janeiro 17 days, to Colón 7 days, to Cartagena 8 or 9 days, to La Guaira 8 to 10 days, to Guayaquil, Ecuador, 12 to 14 days, to Callao, Peru, about 15 days, and to Valparaiso, Chile, about 22 days. The West Coast and the Merchants lines offer through service to the west coast, and the United Fruit Company and the Panama Railroad and Steamship Line connect with the boats of the Peruvian and Chilean lines and the Pacific Steam Navigation Company. Vessels plying to east-coast ports from New York make no stops in the West Indies, as a rule, except at Barbados, and occasionally Trinidad, and travelers in Venezuela or Colombia who wish to visit Brazil and Argentina often find it more desirable to return to New York than to wait for connections. Pernambuco is the first port of call for the regular liners on the way down the east coast, except those of the Lloyd Brazileiro, and Pará and neighboring ports are reached from Pernambuco by coasting vessels.

*River Transportation.*— Transportation by river in South America has had the importance which it always has in a new and unexplored continent, and it will continue to be perhaps the chief factor in the development of the interior regions, particularly the Amazon Valley, for an indefinite time to come. Where railways are built they form of course the principal means of carrying traffic, and a steady expansion in railway construction is to be expected. But such construction is attended with great difficulties in the vast tropical regions of the northern and central sections as well as in the mountainous regions of the west coast, and the cost is very heavy. The rivers will therefore remain the recognized outlets for these tropical regions until the growth of population makes it feasible and desirable to provide what is now dense forest land with networks of railways.

There are four great river systems in South America on which vessels ranging in size from the small canoe of the Indian to the great ocean liners carry manufactured goods to the interior and bring out rubber, hides, and a dozen other tropical products. These are the systems of the Amazon, the river Plate, the Ori-

noco, and the Magdalena. So extensive are these systems that with a comparatively few miles portage one can go by boat except for rapids from Buenos Aires to the mouth of the Orinoco. The great Amazon, of course, leads in the extent of navigable waterways, and ocean liners go regularly as far as Manaos and even Iquitos, almost to the boundary of Ecuador. The Parana and its tributaries, the Paraguay and the Pilcomayo, stretch far into the heart of the continent and afford an outlet for the interior plains of Bolivia, Brazil, Paraguay, and Argentina. In the north the Orinoco is as yet little utilized because the country it serves is but thinly settled, but the grassy plains through which it flows will support millions more cattle than they do, and until railways are built to the coast their only outlet will be by way of the river. In Colombia the Magdalena forms the only highway by which freight and passengers move from the interior of the country to the Atlantic coast and vice versa.

Navigation on the Amazon, in many respects the most remarkable river highway in the world, is carried on by ocean liners, particularly the boats of the Booth Line and the Lloyd Brazileiro, by a number of river companies, and by a host of larger or smaller vessels not grouped into companies. The principal river company is the Companhia Navegação do Amazonas, a Brazilian company, which owns some 50 or 60 vessels. The principal port is that of Manaós, about 1000 miles from Pará, on the Rio Negro near the place where it empties into the Amazon. On the Madeira there is continuous navigation to the beginning of the rapids at Santo Antonio, and beyond these series of rapids, which are spanned by the Madeira-Mamore Railway, boats of light draft can run almost to the foot of the mountains. On the Amazon itself the line of navigable water for large-draft boats passes the frontier of Peru and continues on to Iquitos, and much farther for those of smaller size. Another highly important river in Brazilian transportation is the São Francisco, which rises in the state of Minas Geraes and flows north for more than a thousand miles before turning east and south to the Atlantic. Rapids and falls prohibit through navigation, but there is a stretch of about 800 miles between Pirapora and Sobradinho over which boats of considerable size can operate.

The Uruguay River does not offer much in the way of transportation facilities, as rapids at Salto stop the boats going up from Buenos Aires. The Paraguay, however, is open as far as the draft of vessels will permit them to go, and steamers of the Lloyd

Brazileiro call regularly at Corumba on the Bolivia-Brazil frontier. These boats and also those of the Mihanovitch Line (Argentine Navigation Co., Ltd.) offer a river service to Asunción, Paraguay, the trip up the river from Buenos Aires taking about five days and that down-river about four. This company, which has a fleet of some 300 vessels, does an extensive coasting business to Argentine ports, and maintains a daily express service between Montevideo and Buenos Aires.

On the Orinoco, as noted, traffic is light because of the fact that the plains through which the river flows are as yet but sparsely inhabited. There is considerable difference in the level of the river in the rainy and the dry seasons and when the floods come it overflows its banks and its width increases to several miles. The principal city, Ciudad Bolívar, is reached by vessels engaged in ocean trade, and the river is navigable for large boats during high water as far as San Antonio. In western Venezuela the large expanse of Lake Maracaibo affords a highway over which the important coffee production of the interior reaches the outside world, but a bar at the entrance keeps out all but light-draft boats.

The Magdalena River, in Colombia, may be said to be the life-line of the country's commerce. Practically all imports destined for the interior are carried over it. Although it is silted up at the mouth so that ocean liners can not pass through, cargo is discharged at Cartagena and Puerto Colombia and is taken thence by rail to the river ports of Calamar and Barranquilla. It is then loaded on river boats (which also carry passengers) and carried up the Magdalena to the various river ports, from which it is taken inland by muleback or rail. If destined for the capital, Bogotá, it must be transferred to railway trains at Honda or La Dorado, and then reloaded on river boats at Beltran, after having encompassed a series of rapids in the river. It then goes by river to Girardot, 93 miles, and finally arrives at Bogotá after another journey by rail, during which it must be transshipped from a medium-gauge to a narrow-gauge railway. From the time it arrives in port, therefore, until it reaches Bogotá the cargo is transshipped six times. The whole trip up-river to Bogotá takes 8 to 10 days, but the down trip can be made in less time during periods of high water. The Cauca River, the principal tributary of the Magdalena, is navigable over part of its length, but rapids and falls prevent the river boats from running through to the Magdalena. Railway construction may in time provide a quicker and more convenient outlet for the country's products, but this is not likely to be accomplished for many years.

## Mexico and Central America

Central American has owned much of its ocean-transportation service to the development of its banana industry, as this has brought about the establishment of the steamship lines of the United Fruit Co. The vessels of this company have provided the east coast of Central America with a service to United States ports more frequent and regular than is enjoyed by any other section of Latin America. Large ships carrying as a rule both passengers and freight sail regularly between the United States and Central America, as well as Colombia and Cuba, giving direct connections between these countries and five United States ports. From New York there are two sailings each week for Panama (one of these boats also making Port Limon, Costa Rica), and one sailing every two weeks for British Honduras, Guatemala and Spanish Honduras. From Boston there is a weekly boat to Port Limon, stopping at Havana, Cuba, on the way. From New Orleans there is a boat each week to British and Spanish Honduras and Guatemala and another to Panama and Costa Rica, while a third sails for Panama by way of Havana. Service is also offered from Galveston and Mobile, though no passengers are carried, as they are on all the other routes. These boats, carrying millions of bunches of bananas from Central American ports every year, as well as cacao and other produce, afford an adequate and valued service of immense importance to the prosperity of Central American countries, all of which are reached directly except Salvador and Nicaragua.

Besides the United Fruit Company lines serving the east coast from the United States are the Bluefields Fruit & Steamship Company, operating between Bluefields and New Orleans, affording the only regular steamship communication of eastern Nicaragua with the outside world; the Orr-Laubenheimer Line, the vessels of which operate between Mobile and ports of British Honduras and Guatemala; the Hubbard-Zemurray Line running fruit steamers from Mobile to Puerto Cortes, Ceiba, and Tela, Honduras; and the Independent Steamship Line, with sailings twice a week for Ceiba, Honduras.

Before the war the Hamburg American Line (Atlas Service) had weekly sailings between New York and Port Limon, and also a semi-monthly service from Port Limon to Hamburg. The Elders & Fyffes Line formerly carried bananas from Costa Rica to Bristol, England, but the vessels were taken over by the United Fruit Company, which continued the sailings via Colón and Jamaica. The French Cie. Generale Transatlantique maintained

a semi-monthly service between Colón and Port Limon and Havre before the war, but sailings under war conditions have been uncertain. Besides this line connections between Panama and Europe are normally afforded by the Leyland & Harrison Line and the Royal Mail Steam Packet Company to England, La Veloce (Italian) to Genoa, and the Compania Transatlantica de Barcelona to Spanish ports.

On the Pacific coast Central America is served by five regularly operating lines, the Pacific Mail, the line of W. R. Grace & Co., the Salvador Railway & Steamship Co., the Jebson Line, and the California South Sea Navigation Company. The first-named line operates between Balboa and San Francisco, touching at intermediate ports of importance, the second between Seattle and Balboa and the third between Salina Cruz, Mexico, the terminus of the Tehuantepec Railway, and Balboa. The Jebson Line and the California South Sea Navigation Company operate out of San Francisco, the former with steamers every three weeks and the latter every 10 days for ports to the south. Before the war the vessels of the Kosmos and Hamburg American lines called at Central American ports on their way to Europe. All the above lines serve Mexican west coast ports as well as those of Central America, and in addition the Pacific Coast Steamship Company has sailings from San Francisco to Mexican ports.

To Mexican east-coast ports four or five lines offer direct regular service from New York, and others take cargo for transshipment. The New York & Cuba Mail has a weekly service to Vera Cruz, Progreso, and Puerto Mexico, and the American & Cuban Steamship Line and the Atlantic Fruit Company serve Vera Cruz, Tampico, and Frontera with frequent sailings. From New Orleans and Mobile three or four lines have weekly sailings to the chief east-coast ports of Mexico, and there are also a large number of tramp steamers plying between Mexican and United States Gulf ports. Several oil companies also operate tank steamers out of Tampico to United States and European ports. In normal times Dutch, British, German, and other steamers afford a frequent service to Europe.

Lake and river transportation has not been extensively developed in Mexico or Central America, as there are no interior waterways of great importance. In Guatemala a certain amount of traffic is carried on over Lake Izabal, and in Nicaragua Lake Nicaragua, Lake Managua, and the San Juan River form a water highway that is considerably used. In Mexico the Panuco River, leading back from Tampico, is navigable for many miles.

# Interior Transportation

By Otto Wilson

A CASUAL study of the map will disclose that South America, although discovered by white men over 400 years ago, is as yet in large part only fringed with settlements, and the heart of the continent remains as it was before Columbus sailed. All along the coasts are scores of towns and cities, mostly communicating with each other and the outside world by water, which serve as inlet and outlet for the commerce of a comparatively narrow hinterland. In some cases the towns and villages of this hinterland are reached by railways, in others by river boats; but very often the only communicating road from the coast is a rough trail, where even wheeled vehicles will find no thoroughfare. Even where rail or river transportation is well developed the terminal towns serve as distributing centres for settlements still farther in the interior, which must be reached by primitive means. These interior towns are not heavy consumers of manufactured goods from abroad, or at least the variety of such goods in demand is not wide. But such lines as cotton goods, boots and shoes, farm implements, house furnishings, and hardware of various kinds, particularly cutlery, move constantly to the interior when they can be obtained from abroad. It is also a mistake to consider that these outlying villages offer no special market for luxuries or for articles usually associated with urban life. An American company has placed sewing machines in the houses of poor Indian laborers, and one instance is known where an American soda fountain was imported, although the drums of carbonated water to be used in it had to be carried regularly 100 miles or so by muleback.

So far as the individual manufacturer is concerned the problems of interior transportation are largely matters of academic interest only, except in so far as packing and marking shipments are involved. As a rule the American manufacturer exports his wares to South America in the same way as the German, British, or other European manufacturer, that is through an export commission house, which attends to transportation details. Even where he ships direct his goods in most cases go to a native importing house in some large port, and this house, long established in the

field, has its own connections with merchants of the interior. It will nevertheless be worth his while to make such study as he can of the ultimate consumer in South America, and, if opportunity offers, to trace his goods by personal visit to their final destination in mountain or forest home. The necessity for complying closely with requirements as to trifling details in color or construction, for packing in containers of a certain weight and quality, and for being liberal in granting credit terms to importers will undoubtedly be more clear to him after such visit.

The distributing centres for foreign goods in South America are in most cases coast cities at which the ocean liners discharge the cargo destined for the general region which they serve. Along the coast of Brazil there are six or eight of these centres, including Pará, Pernambuco, Bahía, Rio de Janeiro, and Santos, and to a lesser extent Rio Grande do Sul, Porto Alegre, Florianopolis, Victoria, Maceio, Fortaleza, Paranagua, and others, while Manaós, over 900 miles up the Amazon, is for all practical purposes to be considered an ocean port. From these cities goods are distributed by coast vessels ranging in size from those of several hundred tons to the small sailing vessels or motor boats, which make the numerous small ports in between the larger centres, and from these the goods work their way back into the inland villages. In Uruguay all lines radiate from Montevideo and in Argentina Buenos Aires is the great open door to the whole interior. Goods destined for Patagonia may be routed by way of Bahía Blanca or Punta Arenas, but the greater part of imports for this section also will probably be found to pass through Buenos Aires. Along the Chilean coast are many nitrate towns and cities, each of which lives an independent existence, obtaining all its supplies from visiting ships. Besides three railway lines running to the Pacific, Bolivia is reached by two or three routes running up from the river Plate. This is the historic road over which a great amount of traffic passed in the Spanish colonial days, and it is still a convenient pathway for supplies going to eastern Bolivia. The route lies through either Buenos Aires or Rosario, then by rail to the border at La Quiaca, then by cart or animal to Tupiza, 57 miles, or to Tarija, 82 miles, and then by such conveyance as offers to the final destination. Goods often reach the cities of Sucre or Potosí in this manner. Throughout all the region known as the "montaña" district, embracing eastern Bolivia, Peru, Ecuador and western Brazil, the method of moving produce is the same — that is, by rail, ocean steamer, or river boat as far as these conveyances can take it, then by muleback, llama back, or man power to

the village in the mountain or forest. This is true also of Colombia and Venezuela and the Guianas, to the north, where the general absence of rail transportation makes the mule a necessity in communicating with most districts off the coast.

In all South America there are hardly any extensive highways built and maintained with substantial paving materials, such as are common in the United States and Europe. Wheeled vehicles are mostly carts, which are used in many places to bring the country produce to market and to do heavy hauling in the towns and cities. This lack of roads is due in part to the expense of constructing them, in part to the general disposition of South Americans to allow foreign enterprise to develop their resources. There is, however, a very widespread interest in the subject of good roads, and several Governments have included substantial sums in their budgets to be devoted to building them. It is likely that the continent is on the eve of an era of extensive highway construction, one of the things now most needed to open up the resources of the various potentially wealthy countries. The coming of the automobile is to be credited with much of the interest now being displayed in good roads.

It is in determining the question of how best to pack his goods for shipment to possible interior points that the manufacturer comes closest in touch with transportation conditions there. The packing room of the factory, if it conscientiously tries to observe all the instructions given in general trade reports from South America, will have its work cut out for it. Goods must be packed in strong containers, well stripped with iron or wood bands, but these must not be too heavy because of the levying of import duties on the weight of container as well as contents. In some cases goods should be placed in interior wrappings, in others not. Tin, tarred paper, tarred burlap, oilcloth, or some other covering should be used to protect goods from salt water. Besides all this, goods going into the interior should be packed in boxes or bales of not more than 100 pounds, or at most 125 pounds, so that they can conveniently be carried on mule or llama back, and the wood used should be of good grade, usually one of the harder woods such as beech or oak rather than pine, as in many cases the shipment is valued for the container as well as the imported article itself. There is only one safe method to follow with regard to packing, and that is to follow closely any instructions that may be given by the buyer, who usually has particular reasons for insisting on certain details. If such instructions are not volunteered the careful manufacturer will ask for them, and will work out his own style

of packing in accordance with his experiences in experimental shipments. His carefulness and anxiety to put up his goods in the right way will be much appreciated by Latin American customers who have had much experience of an opposite nature.

Of the beasts of burden used to transport freight into the mountainous districts of the Andean highlands the llama is most distinctive but the mule is most useful. The llama is not a strong animal, and can carry only about 100 pounds. It is very tractable and finds its own forage by the wayside. It knows its load, however, and will usually refuse to go on if a few pounds extra weight are added to its burden. The mule carries as much as 250 pounds at a load, but as the pack is arranged so as to distribute the load evenly on each side it adds greatly to the convenience of the importer to have the goods in cases of 120 or 125 pounds each. Packages should not be over 3 feet long, or 14 inches in other dimensions. Indians carry heavy loads on their backs and go long distances with little to eat, although a pouch of coca leaves on which to chew is considered practically a necessity.

Conditions in Central America are practically the same as in South America so far as interior transportation goes, although in one case at least an excellent automobile road has been built. This is the highway called "Carretera del Sur," 90 miles long, leading from the Pacific coast of Honduras to Tegucigalpa. There is much interest in road building in Honduras, but comparatively little construction of a permanent character has been effected. In Mexico road building and railroad construction have made much more advance, but mule trains are used throughout the country, particularly for carrying supplies into mining camps and bringing out ore.

# Immigration to Latin America

By Marion Wilcox

A VITALLY important matter to nearly all of the Latin American countries — though not in the same degree essential to all — is the supply of energetic and adaptable immigrants, whose exertions will increase material prosperity wherever it has been established or hasten its coming in other regions — those of undeveloped natural resources. In this connection, the following statements may serve to supply our readers with the salient facts in relation to the various republics.

In the course of half a century Argentina has received as settlers more than 2,000,000 Italians, about 1,500,000 Spaniards, over 200,000 French people, 70,000 Austro-Hungarians, over 50,000 Germans and about the same number of Britons, 30,000 Swiss, 21,000 Belgians, and many Russians, Syrians, and Portuguese. The North American immigrants numbered between 6,000 and 7,000. In 1915 the total immigration to this republic (including 25,163 Spaniards, 11,279 Italians, 1,181 French, 835 Portuguese, 735 British) was given as 86,166. This was far below the average, which in recent years has approximated 300,000. The constitutional provision that all children born in the republic are citizens of Argentina applies equally to the children of foreigners.

Bolivia, having no seaport, naturally receives few immigrants, and its entire foreign population numbers only 7,500 or 8,000, including about 2,000 Peruvians. The government, however, offers substantial inducements to settlers. By the law of 13 Oct. 1905, some of the vacant lands are reserved for adjudication to immigrants, and it is provided that any alien not over 60 years of age, upon proof of good moral character, will be granted the following privileges: The right to come into the country and with his family to be transported to his destination; free transportation of baggage; the right to occupy public lands for agricultural purposes or any useful industry. Each immigrant can obtain 120 acres for $5.00 and each child under 14 years of age 60 additional acres. At this nominal price the immigrant secures land chosen by himself within the reservations above mentioned.

As for Brazil, the records of nearly a century show the total number of immigrants to have been more than 3,500,000. "The first attempt at colonization, other than by Portuguese was [made]

by John VI, in 1818–19. He started two German villages in Bahía, and a Swiss one at Novo Friburgo." (Consult Oakenfull, J. C., *Brazil*, Frome 1913). By nationalities, the figures from 1820 to 1912, inclusive, are the following: Italian immigrants 1,327,808; Portuguese 883,351; Spanish 412,438; German 116,151; Russian 92,413; Austrian 75,774; Turkish and Arabian 39,286; French 25,748; British 16,395; Swiss 9,086; Japanese 4,746; Swedish 3,780; Belgian 3,670; of other nationalities 203,396; total 3,214,042. In 1914 Brazil received 82,572 immigrants, including 27,933 Portuguese, 18,945 Spaniards, 15,542 Italians, 3,675 Japanese, 3,456 Syrians, 2,958 Russians (chiefly Poles), 971 Austro-Hungarians, 696 French and 462 British. The subsidized immigrants were 17,709 in number. The high-water mark was reached in 1891, when the total number of immigrants was 275,808, including more than 116,000 Italians. "This influx," writes Oakenfull, "was doubtless due in part to the crisis in the Argentine Republic (1890–92)," which temporarily diverted currents of immigration from Buenos Aires to Rio de Janeiro. "Since 1895 the figures have demonstrated the necessity of measures for encouraging the flow of colonists into the country." The several states of Brazil had recourse to liberal subventions or subsidies, which have varied from time to time and cannot be given in detail here; but we may add that São Paulo led the way in the endeavor; that Minas Geraes passed immigration laws in 1896, 1899 and 1905; that in Paraná, Bahía, Matto Grosso, etc., similar legislation was devised, and competitive propaganda in Europe gave rise to conditions everywhere regarded as unsatisfactory; and finally that, on 19 April 1907, the Federal Government wisely interposed its national decree relating to immigration and colonization — a stabilizing measure. (See Brazilian Government, p. 260, for the underlying governmental principle involved).

Immigration into Chile is on a small scale, although it is favored, and to a certain extent stimulated, by the government, chiefly through the formation of agricultural settlements or colonies. During the decade 1905–1914, inclusive, the total number of immigrants was 25,544.

Colombia's north coast is gaining immigrants through the development of the banana industry (see article Fruit), but an anomalous situation is observed in the republic as a whole. "There is much public land, fertile, favorably and healthily situated, and easily cleared for grazing or cultivation, that is to be had for the taking. The laws as to *baldios* [government domains] are liberal: a colonist, by cultivating and fencing, acquires title to the tract

improved and to an adjacent area of equal dimensions; and title can also be obtained by petition, surveying, and the payment of small fees. But the tide of immigration that Colombia so much needs has flowed to the other countries," partly because the governments of other Latin American countries have offered superior pecuniary inducements, " whereas Colombia is still half-hearted in her desire to attract foreign immigrants. Citizens there are who do not hesitate publicly and emphatically to declare that Colombians are better off without foreign settlers, even of their own religion." (Consult Eder, P. J., *Colombia*, London, 1913). And the same writer, himself a native of Colombia, says that " with foreign capital and foreign immigration, material prosperity will come speedily; without them, or either of them, the day of salvation will be delayed."

Costa Rica's banana plantations furnish occupation for about 25,000 (colored) British West Indians and a number of white foreigners, mainly from the United States. European immigrants from Spain, etc., are relatively few; and similar disproportions are noted in regard to Nicaragua and Honduras.

Cuba received 69,135 immigrants (53,889 men and 15,246 women) in 1914. Emigrants from Cuba in the same year numbered 67,814.

The Dominican Republic's foreign element comprises mainly the Turkish and Syrian tradesmen in the city of Santo Domingo. Both immigration and emigration are negligible. In the Republic of Haiti, which occupies the western part of the same island, there are about 5,000 foreigners, of whom approximately 10 per cent are white.

Commenting upon Ecuador, a British Foreign Office Report states that " the development of the actual branches of cultivation affords full employment for all available labor, and the absolute requirement for the further progress of the country is the encouragement of immigration." The report mentions (somewhat too unsparingly to harmonize with the facts well known to-day) such deterrent circumstances as " the insanitary conditions of Guayaquil and some of the agricultural districts." There is no good reason to doubt that the work of sanitation that has been undertaken will be as successful in these regions as it has been elsewhere (see Latin America — Climatic Values of Altitude, p. 9, and Fruit). The salient fact in regard to this South American country is that immigration, hitherto very slight, now waits upon the demonstration of the success of the sanitary measures.

Guatemala has, since 1906, shared with Honduras, Nicaragua, Costa Rica, Panama, and Colombia the increase in the number of resident foreigners occasioned by the development of the fruit industry. Such increase amounts as yet only to about 7,000 in Guatemala, and the government of that country is trying earnestly to attract white immigrants by entering into contracts with desirable persons and providing free transportation from foreign ports to designated areas in the public domain. Further inducements now offered are: Free entry of, as well as free transportation for stock, tools, implements, seed, and household effects; to each immigrant free use of not less than two and not more than six hectares (4.94 and 14.83 acres, respectively) of land; and if within two years he cultivates one-third of the grant he will be given title to the homestead. "Persons of bad character, those convicted of crime, or those over 60 years of age whose families do not already reside in the republic will not be accepted." Immigrants may preserve their own nationality or may become citizens of Guatemala, but in either event they are restrained from recourse to diplomatic channels for the interpretation or enforcement of their contracts. "All immigrants are exempt from military and municipal service. Companies or individuals desiring to import immigrants must have the approval of the Minister of Promotion, and such contracts must not be for a larger term than four years; nor can any contract call for more than eight hours' work a day from an immigrant. Immigrants coming to the country on their own initiative are subject only to the laws relating to foreigners generally; the benefits of the immigration laws are not applicable to them. Those desiring to come under the law can make application to the nearest Guatemalan consul." (Consult *Central America as an Export Field*, Washington, Dept. of Commerce, 1916).

Mexican statistics since 1910 supply very little information that we can utilize in this study. In the year mentioned the census of resident foreigners showed: 29,541 from Spain; 28,639 from the United States; 21,334 from Guatemala; 13,203 from China; 5,264 from various parts of the British Empire; 4,604 from France; 3,827 from Germany; 3,478 from Cuba; 2,907 from Turkey; 2,595 from Italy; 2,276 from Japan; 1,546 from countries classified as Arabian; 5,433 from all other countries. The total foreign population was given as 116,527.

In the Republic of Panama there are between 23,000 and 24,000 British subjects — not including those in the Canal Zone — chiefly from the West Indies; Chinese subjects number approximately 3,500; and from time to time a few immigrants or tempo-

rary residents arrive from the United States and the continental European countries. The main currents of immigration, in all the region of the Isthmus, are directed to the Canal Zone. (See the articles devoted to the Republic of Panama and the Panama Canal).

Paraguay has for many years endeavored to secure foreign labor by framing laws designed to attract immigrants. Agricultural colonies were established, and the government offered 20 hectares of land at an almost nominal price to each immigrant with a family; agreeing also to furnish transportation from any point on the Rio de la Plata, to admit duty free the articles appropriate to each immigrant's occupation, to supply the newcomers with food and lodging temporarily, etc. A large part of the public domain has now been transferred to private ownership. The immigrants who received assistance from the government in 1909 numbered 830; there were 389 beneficiaries in 1911; 704 in 1912; 1,512 in 1913; and 1,616 in 1914. Their colonies are most numerous along the new line of the Paraguay Central Railway. In 1914 the number of foreigners in the republic was 30,000 or more, including 10,000 to 15,000 from Argentina and about the same number from Italy; 3,000 from Germany; 1,400 from Brazil; 1,100 from Spain; somewhat less than 1,000 from France; 600 from Uruguay, and 400 from Great Britain.

For Peru's coastal valleys a supply (still insufficient) of immigrant laborers has been secured. These are Chinese, Japanese and negroes. In the larger cities and at mining centres in the high sierra one finds business men, miners, engineers, etc., from the United States, Great Britain, Spain, and Germany; but in view of the size and great natural wealth of the country it must be said that immigration is very slight. A recent writer calls attention to "the higher parts of the montaña as it rises toward the Andes," and suggests: "Here a field for immigration may be found; but the means of transit and transport must first be developed, and much capital must be sunk and pioneer work accomplished." (Consult Vivian, E. C., *Peru*, London 1914).

Salvador, with a density of population far exceeding that of any other nation of the New World, requires only skilled labor and capital.

Immigration into Uruguay is stimulated by the government of that republic "which is advertising the country's advantages and passing liberal laws in favor of the new comer. Uruguay was one of the first nations in South America to couple with new railway projects the principle of assisted immigration along the rail-

way line, and the results are beginning to show. In one construction project accommodation will be given to colonists, who will be furnished with land, houses, stock, and farming implements for their work." (Consult Pan American Union, *Uruguay: General Descriptive Data*, Washington 1916). In 1914 the Spanish immigrants landing in Montevideo numbered 12,576; Italian 11,758; French 1,258; English 1,026; Brazilian 919; German 884. The foreign elements in the republic are, in the order of their numerical strength: Italian, Spanish, Brazilian, Argentine, French, Swiss, British, and German.

Venezuela in 1912 received 9,672 immigrants, and in the same year the number of emigrants was 7,991. In 1913 the figures were: Immigrants 11,617 and emigrants 10,708. In 1914 immigrants numbered 10,610 and emigrants 9,742.

# Latin America: Greatest Undeveloped Producing Region in the World

By O. P. Austin

Statistician of the National City Bank of New York and Secretary of the National Geographic Society

LATIN AMERICA is the most promising of the undeveloped sections of the world. The North Temperate Zone has been peopled and developed. Europe with 3,875,000 square miles has 465,000,000 people, or 120 per square mile. Asia with 17,000,000 square miles has 870,000,000 people, or 50 per square miles. North America with 8,600,000 square miles has 140,000,000 or 16 per square mile. Africa with 11,600,000 square miles has 150,000,000 or 12 persons per square mile, South America with 7,600,000 square miles of area has but 56,000,000 people, or 7 persons per square mile. Add to South America, Mexico, Central America, Cuba and the Island of Haiti, and we find that Latin America has 8,660,000 square miles, 82,000,000 people, and 8 persons per square mile. North America has 315,000 miles of railway, Europe 227,000, Asia 62,000, South America but 49,000, and Latin America as a whole, 70,000. Europe has a commerce of $25,000,000,000 per annum in normal years; North America $6,250,000,000; Asia, $3,750,000,000, and South America $2,250,000,000 in her best year, 1913, and all Latin America $2,900,000,000.

## The Production of the North Temperate Zone

The North Temperate Zone has been pretty well developed as to its producing powers. Europe, with its 120 persons per square mile and 61 miles of railway per 10,000 square miles of area, is no longer capable of increasing its production of foodstuffs or manufacturing material, and must call upon other parts of the world for large quantities of these requirements. Asia with her dense population in the habitable parts and large desert areas can not be expected to supply any considerable quantity of foodstuffs or manufacturing material, and she draws much of food and most of her manufactures from other continents. North America has now comparatively little of foodstuffs for distribution to other parts of the world, save in exceptional times such as that of the present war period, and her only manufacturing material now

available to the outside world is cotton, and lumber, and of the latter her supply is being too rapidly reduced. She has vast quantities of copper and other minerals for manufacturing, but is inclined to turn them into the manufactured form before sending them abroad, and her 275,000 miles of railway and inexhaustible coal supplies encourage this disposition to enlarge her manufacturing, and so utilize at home most of her manufacturing materials and foodstuffs. Manufactures which in 1890 formed but 21 per cent of the exports of the United States were, even before the war, practically one-half of the exports, while foodstuffs which at one time amounted to more than one-half of the exports were in the year before the war but 20 per cent of the total.

As a result of these conditions the world has had to turn to the undeveloped continents for foodstuffs and manufacturing materials. Europe and Asia could not be expected to supply them and did not, and even North America is turning to the South Temperate Zone and the Tropics for large quantities of food and manufacturing material. In the year 1916 the United States alone imported more than a billion dollars worth of tropical and subtropical products, and also brought large quantities of Temperate Zone products from the countries south of the Equator and most of it from Latin America. Wool, hides, fruits, minerals, and even meats and breadstuffs were being brought from south of the Equator for use in the United States and Canada, and for all of these Europe was at the same time calling loudly upon all the South Temperate Zone, until the abnormal transportation conditions of the war suspended, temporarily, the movements of these materials to that continent and turned increasing quantities of them to the United States.

The three great requirements of man are food, clothing and manufactures. Most of the food now used is the product of the Temperate Zones. Man's chief food is bread, meat and vegetables. The bread is made from wheat, and the Temperate Zone is the chief producer of the world's wheat. It seems to be impossible to persuade mankind to use any considerable quantity of corn for food, until it is turned into meats, and while corn and cattle can be produced fairly well in the tropics it is a fact that nine-tenths of the world's corn and meat are produced in the Temperate Zones. Cotton can be produced in the Tropics, but most of it goes to the Temperate Zone to be manufactured, and that is also true of the fibres and hides and rubber produced in the Tropics. As for manufactures, the third requirement of man, they are practically all produced in the Temperate Zones.

It is apparent, therefore, that up to this time the Temperate Zones have been the chief producers of the requirements of man, except in coffee, cocoa, tea, silk, rubber, fibres and tin, and all of these manufacturing materials when produced in the Tropics go to the Temperate Zone to be turned into the manufactured form, while most of the tropical foodstuffs are also consumed in the Temperate Zone. The great belt of tropical area lying between the 30th parallel of North Latitude, which runs through New Orleans and the 30th parallel of South Latitude which runs through Southern Brazil and touches the southern tip of Africa, has half the world's land area exclusive of the Arctic regions and nearly one-half the world's population, yet it supplies but one-sixth of the world's commerce. There is good reason to believe that the Tropics will in time be developed and compelled to supply their proper share of the world's requirements, but this is a matter for the future.

So, it goes without saying that man when he thinks of a further development of the producing power of the world thinks of the South Temperate Zone and the tropical regions adjacent to it. Europe, in the North Temperate Zone, can not be expected to increase her production of foodstuffs or manufacturing material, nor can Asia until it gets much better transportation facilities. As to the temperate area of North America, our own country has shown that the day of furnishing the outside world with food is a matter of the past except under the abnormal conditions which this war has brought about. We shall probably intensify the production of our own soil in a degree sufficient to meet the growing demands of our increasing population, for our present production per acre is but about one-half that of Europe, but this increase will come slowly and only in response to the local demand of our own people. We shall have in future little of foodstuffs to spare for other parts of the world.

So, with the North Temperate Zone no longer capable of supplying foodstuffs for exportation and Europe absolutely requiring much more food than she can herself produce, the world must look to the South Temperate Zone and the Tropics.

As to the Tropics, their possibilities of production of foodstuffs are very great so far as relates to the powers which nature has given them, but up to this time man has not done his share. No country, or continent, or climatic area can " do business " in these modern days unless it can transport its products from the place of production to the common carrier. Man can now send his

steamships to the edges of all the continents and islands, and along the water routes of the interior, but only an extremely small percentage of the area is sufficiently near to the water, whether ocean or river, to make a success of agricultural production in these days when products must be marketed on the opposite side of the globe from that on which they were produced. Less than one per cent of the area of any of the continents or great islands is sufficiently near to the water's edge to permit the transportation of their products to the steamer without land transportation. In the Temperate Zone this can be done by the combined aid of the horse and the railway. The horse can move the product a limited distance, and man can build the railway to such points as can be reached by the horse. But in the Tropics this is not so. Climatic conditions do not permit the horse, however faithful, to do in the tropics the things which he can and does do in the temperate climate. And if there is no means of moving the product to the common carrier there is no incentive to construct the common carrier. The tropical world has little of capital for railway construction and Temperate Zone man who has furnished most of the capital now invested in the Tropics has learned by experience and observation the difficulty of feeding the railway lines in climates in which there are no satisfactory facilities for moving the agricultural products to the common carrier. As a result the 24,000,000 square miles of tropical and subtropical area of the world has but 120,000 miles of railway, while the 24,000,000 square miles of Temperate Zone area has 600,000 miles of railway, although the population of the temperate and the tropical areas is about the same. The people of the Temperate Zone have a commerce of about $40 per capita, while those of the Tropics have a commerce of but about $10 per capita, though in tropical Latin America the exports are about $20 per capita. The value of the exports of the Temperate Zone-half of the world are in normal times about $16,000,000,000 a year, and that of the tropical half about $4,000,000,000 a year.

### The World Looks to the South Temperate Zone

It is not surprising, therefore, that the North Temperate Zone is looking to the South Temperate Zone and Tropical America for food and manufacturing materials. The food demands of the Temperate Zone people are chiefly bread and meat, and the Tropics at present do not produce enough of these for their own use. And there are only three places in the South Temperate

Zone to which to look for products of this character, namely, South America, Australia and New Zealand. All of Argentina, all of Uruguay, two-thirds of Chile and the southern parts of Brazil and Paraguay are temperate. They grow wheat, corn, and maintain enormous herds of cattle and sheep, and Argentina is now beginning to develop the swine industry. In addition to this the great elevated region of the interior of Peru, Bolivia, Ecuador and Colombia is capable of producing Temperate Zone products, the extreme elevation giving it a temperate climate even under the Equator. Argentina, Uruguay, Chile and Mexico together produce about 225,000,000 bushels of wheat a year, while Australia and New Zealand, the other South Temperate Zone wheat producers seldom turn out more than 100,000,000 bushels a year. Of corn, Argentina is next to the United States in rank in the quantity of corn produced, and actually exports more corn than we do, and Mexico 100,000,000 bushels, while Australia and New Zealand produce but very small quantities. Of meats Argentina alone exceeds Australia and New Zealand in combination, her supply of cattle being about 30,000,000 against 13,000,000 in Australia and New Zealand. Mexico and Central America have normally about 10,000,000. Of sheep Argentina has 83,000,000, Australia 82,000,000 and New Zealand 25,000,000, though the number of sheep slaughtered for food is small, most of them being retained for wool production. Of swine Argentina has about 3,000,000 while Australia and New Zealand have about 1,000,000. Brazil has as many cattle as Argentina, 30,000,000; Uruguay 10,000,000, other countries of South America about 20,000,000, and Mexico and Central America 10,000,000, making for all Latin America about 80,000,000 against 20,000,000 in Australia, New Zealand and South Africa. The total number of cattle in all the world is but about 500,000,000. About 125,000,000 of these are in India which does not utilize them for food, so that Latin America has now over one-fourth of the world's supply of cattle usable for food. And when we remember that Latin America has at the present time but an average of 8 persons per square mile against 20 persons per square mile in the United States and 120 per square mile in Europe, it will be seen that her possibilities of a large increase in the future are very great, both in the matter of meat supply for the outside world, and that of grain, for Argentina in 1913 held fourth rank as an exporter of wheat, and was also the world's largest exporter of corn. Of sugar Cuba is the world's largest producer, her exports last year in sugar alone amounting to about $250,000,000.

In one other important article of food supply South America outranks all other parts of the world combined. This article is coffee. Brazil alone produces not merely more coffee than any other country, but actually more than all the rest of the world put together. In fact Brazil's output of coffee amounts to about three-fourths of the world's supply, while several other of the Latin American countries produce considerable quantities of this important world crop. The total world output of coffee averages about 2,500,000,000 lbs. per annum, and of this Brazil produces three-fourths and Latin America as a whole produces four-fifths. And when we remember that the coffee crop of the world amounts to about $350,000,000 per annum in value in the countries of production we begin to realize the value of Latin America's production of this article of commerce. The cacao crop of the world amounts in value to about $100,000,000 per annum, and Latin America produces about one-half of this, divided between Ecuador, Brazil and the West Indian Islands, the Ecuador crop amounting to about 100,000,000 lbs. a year, and that of Brazil about 75,000,000. Of flaxseed, or linseed, as it is usually termed in commerce, Argentina produces about one-third of the world's supply, the total world crop usually amounting to about 130,000,000 bushels, while Argentina alone produced 44,000,000 bushels in 1913, though the crop of 1916 was very small owing to the extreme droughts which adversely affected many of the agricultural products of that country.

Wool, hides, rubber, tin and copper are Latin America's chief contribution to the manufacturing requirements of the world at the present time, and the output of copper on the western coast of continental Latin America has greatly increased in very recent years. The relative rank of the Argentine and Uruguay in the world's supply of wool and hides is indicated by the figures above quoted of sheep and cattle in the same countries compared with those of other parts of the world, as above presented. In copper production Chile now holds second rank as a world producer, though her output is small as compared with the United States, which still supplies over one-half of the copper of the world. Chile has also the world's chief supply of nitrate. Mexico and Peru are very large producers of gold and silver.

Bolivia supplies about one-fifth of the world's tin, and has very large supplies yet undeveloped. In India rubber Brazil held first rank in world production prior to the recent wonderful development in the production of plantation rubber, but her output of forest rubber is still in excess of any country, but somewhat

declining by reason of the enormous supplies of plantation rubber now entering the world markets. Of cotton considerable quantities are grown in Brazil, Peru, Chile, Mexico, Colombia and the northern part of Argentina. Tobacco is grown in great quantities, that of Cuba alone amounting to about $25,000,000 a year.

Latin America has a more promising future than any of the other great undeveloped areas of the world. It is, as already shown, a large producer of many classes of foodstuffs and manufacturing material for which the world is clamoring, its fertile area is larger in proportion to its entire extent than that of any other of the undeveloped continents, and the present population per square mile is smaller than that of any other of the continents except Australia which has a much larger percentage of desert than has Latin America. The greatest lack in natural supplies is in coal, of which she has but small quantities, found chiefly in Chile, but the recent developments in fuel oil production in Mexico and the mountain regions of the west coast of South America, coupled with the increasing use of the splendid water powers for the production of electricity, promise to minimize the disadvantage due to this lack in fuel supplies.

Latin America's greatest requirement at the present time is capital for transportation facilities and for the development of the great agricultural and mineral resources which will become available with facilities to transport the natural products to the navigable streams of which South America has the world's greatest supply and thence to the ocean where steamships are available to transport them to the waiting markets of the world. The lessons of the war have shown that the horseless vehicle can now be successfully used over areas in which no modern roads exist, and the development of the motor for farm purposes has shown how agriculture can now be conducted in the Tropics without the aid of the horse. These things point to a great development in the producing power of Latin America in the near future.

# Economic Scope of Constitutional Reforms

By Marrion Wilcox

THE new constitutions in three of the Latin American Republics, Uruguay, Mexico, and Venezuela, invite special consideration. They mark the beginning — in quite different ways — of a widespread movement toward adaptation of fundamental law in Latin America to new economic conditions.

In Uruguay, constitutional reforms designed to be satisfactory to the business interests of the country were accepted by the Constitutional Assembly in 1917; and the basic ideas of the new constitution, which will come into force 1 March 1919, are the following: (1) The next President is to be elected by the Chambers — the Senate and House of Representatives — as heretofore, but succeeding Presidents are to be elected directly by the people, with secret voting. The presidential period will remain as at present, a four-year period. (2) No one can be re-elected as President until eight years shall have elapsed after his previous term. This is substituted for the provision that he must not be a candidate for re-election for the term immediately following his own tenure of office. (3) In case of vacancy occurring in the presidency, the Chambers, by absolute majority, shall at once elect a substitute to hold office for the remainder of the period. The provision has been heretofore that in case of the President's disability or death, the presiding officer of the Senate shall assume the presidency. (4) The President shall have direction of the army and navy, and shall be in charge of foreign affairs and of public order at home and abroad. The prefects shall be dependent upon him alone; nevertheless it is provided that they shall be appointed by him from candidates proposed by an important body to be known as the Council or the Council of State. (5) The Council shall submit for examination by the President matters relating to the creation or modification of taxes, to loans, to the budget, the circulating medium, and to foreign commerce. This includes also practically all proposed economic measures. If the President withhold his approval the Council may prevail only by a two-thirds vote. (6) Conflicts of jurisdiction between the President and the Council of State shall be decided by the Chambers.

(7) The Council of State shall consist of nine members, serving six years each; it shall be renewed by third parts, every two years, by direct election and secret voting. The first Council shall be elected by the Chambers, six members by the majority and three by the minority. (8) The Chambers shall be paramount in their control of national measures. (9) The principle of municipal autonomy with the enjoyment of suitable revenues is adopted. (10) Constitutional reforms may be initiated by either of the Chambers, proposed amendments requiring a two-thirds vote of the total membership of each Chamber for acceptance. The amendments shall be submitted to the succeeding legislature; and if then approved in the same form and manner their ratification shall be considered complete. (11) All forms of worship are free in Uruguay. The State does not sustain any religion. It recognizes the proprietorship of the Catholic Church in ecclesiastical edifices already built in whole or in part by national funds, except the chapels attached to asylums, hospitals, prisons and other public establishments. Churches and other places of worship are free from all taxation. (12) Inscription in the civil register is obligatory; in all elections, whether of national or of municipal officers, taking place after 1 March 1919 the voting shall be secret and representation shall be proportional; very positive restrictions are imposed upon military and police functionaries in respect to political activity, etc. The political parties, Colorados and Blancos, after conciliatory negotiations, agreed to accept what has been characterized as a "modern, smooth-running, efficient mechanism of State" in place of the old constitution which, according to the best opinion of the progressive element and financial authorities, was unsuited to present-day conditions. (See URUGUAY—GOVERNMENT. Consult *The Americas*, New York, July 1917, pp. 21 and 22).

Mexico's new constitution (1917) has been made the subject of special study by a contributor to this work. We therefore refer our readers to his article dealing with the Mexican government (pages 457–465, inclusive, especially pages 460, 461, and 463). Radical change in Mexico's attitude toward the wealth-producing elements, or wealth-factors, is perhaps sufficiently emphasized in the sections just mentioned.

The constitution of Venezuela, sanctioned by the Congress of Deputies Plenipotentiary of the States in 1914 (Caracas, Imprenta Nacional, 1914), provides in Article 128 that "the duration of the constitutional periods of the executive and judicial branches of the Federal Power shall be *seven* years and shall be

reckoned from 19 April 1915." Under Title VI, first section, Article 72, we read: "All that relates to the Administración General of the Union, which is not consigned to other authority by this constitution, is within the control of the (es de la competencia del) Federal Executive; and this is exercised by a magistrate, who shall be called President of the United States of Venezuela, in union with the cabinet ministers who are his instruments (órganos)." A new article, number 77, is to the effect that a cabinet minister designated by the President shall supply the vacancy whenever the Chief Executive is temporarily absent or incapacitated; but in the event of permanent or absolute disability Congress must be convoked for the election of a new President to round out the period. The third section gives, in Article 79, as attributes of President: The power to appoint and remove at will those national employees whose election is not assigned to other functionaries, etc. In connection with the rights guaranteed by the nation to its citizens (Title III, Article 22) a phrase of present and future significance is added in the second subdivision, which now provides that property shall be held subject to the execution of sanitary measures in conformity with the law — a reservation not expressed in corresponding parts of the constitutions of 1904 and 1909. As for the rights and duties of foreigners, Title I, third section, Article 16, epigrammatizes them: "The law determines these rights and duties; but in no case can they be greater than those of the Venezuelans." Public health and the status of foreigners, both subjects of high importance that can be barely touched upon in this brief chapter, may be here placed side-by-side with Articles 120 and 121. The omission of the words "sin apelación á la guerra" (without recourse to war), which occurred in Article 120 of the constitution of 1909, merely simplifies the expression. The declaration that in specified instances disagreements must be arbitrated stands with its purport practically unchanged; and former declarations in respect to contracts "of public interest" are repeated in Article 121. The tendency of thought on economic subjects at a period still more recent is shown in the report of the Department of Finance (Carácas 1917). Maintenance of public order, encouragement of industry, loyal and upright administration of the national revenues — these subjects receive emphasis; and the lengthening of the terms of executive and judicial officers is at least not incompatible with the attainment of prosperity. Consult *Cuenta General de Rentas y Gastos Publicas*, Departmento de Hacienda, Carácas 1917.

# Latin American Budgets

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THE Latin American countries are primarily producers and exporters of raw products produced by unskilled labor. As a result, the world business depression of 1907, followed by that of the Balkan war period, was severely felt throughout South America particularly. In one way it was a real blessing, in view of the present European war, as it was a deterrent to prodigal expenditures for public improvements. However, in 1913–14 the time seemed opportune to expand both government and private financial operations — an impulse abruptly checked by the breaking out of the present world hostilities. Saving measures were absolutely necessary, and moratoria were proclaimed throughout Latin America. The cutting off, or deflection, of foreign markets, produced a stagnation in domestic industry, financially and in the field of labor; and, without the ability to buy abroad, credits being curtailed, the customs revenues fell to a minimum. In the face of all this, the public debt charges had to be met, and, due to decreased revenues, additional obligations had to be entered into. With striking uniformity, measures of curtailment of expense were passed by every country, a particular need with those whose currency systems were not on a sound basis.

In the following review of the individual countries, the effort has been to show in United States currency the comparative revenues of Latin America before and after the breaking out of the present war. The figures given are in many cases the official estimates, no account being taken of deficiencies or surpluses at the end of the year. These estimates represent the assumed abilities or resources of the various countries as viewed through the eyes of the local authorities.

While the political systems of Latin America are based upon that of the United States, the Budget (Spanish: Presupuesto General) is a relic of European finance, and has been found suited to most requirements. In the review of certain of the countries, as examples of all, are given the constitutional excerpts covering budget expenditures and revenues.

*Argentina.*— The Constitution of Argentina provides (Art. 61) that the Congress "shall annually fix the budget of expenses of the National Administration." The advantageous situation of the country, its varied productions, continuous and rapid increase in population, favored by a stable political administration, has been reflected in the steady increase in the annual revenues and expenditures which have not only been estimated with a view to the ordinary expenses of the Government, but likewise to extraordinary expenses — public works, railroads, harbor facilities, subsidies, etc., in promotion of the well being of the Republic. For this latter purpose numerous National debts have been contracted, in addition, whose amortization has been included in the annual budgets, the interest and other charges on same being at present upwards of 30 per cent of the total annual expenditures.

The ordinary revenues of the Republic are derived approximately as follows: Customs (almost entirely import duties), 50 per cent; liquors, 5 per cent; tobacco, 8 per cent; stamped paper, 5 per cent; posts and telegraphs, 4½ per cent; the remainder being pharmaceutical and toilet preparations, land tax, provincial debt service, fines, and miscellaneous. A special or extraordinary revenue is that derived from concessions of various kinds, the proceeds from the irrigation fund contributing 40 per cent. Of the expenditures, the public debt service (above cited) is the greatest item. Next to it is that of Justice and Education, 20 per cent; Interior, 15 per cent; Army, 9 per cent; Navy, 9 per cent; the remainder being in the following order: Treasury, Agriculture, Pensions, etc., Public Works, Military Purchases, Foreign Affairs, and Congress. In addition, there is provided an extraordinary expenditure, varying from year to year, devoted largely to public works and subsidies. All estimates are made in terms of the paper peso. Reduced to United States currency, the budgets for 1914–15–16 are as follows: 1914, revenues, $180,267,798, expenditures, $180,716,196; 1915, revenues (estimated), $174,093,895, expenditures (estimated), $167,163,690; and 1916, revenues (estimated), $174,093,895, expenditures, $150,120,939, the extraordinary revenues and expenditures constituting 18 per cent and 13 per cent, respectively.

*Bolivia.*— In Bolivia the budget is a special attribute of the legislative power, and, as being a matter of finance, must be initiated by the Chamber of Deputies (Constitution, Arts. 18, 25). The revenues are derived principally from customs duties, both import and export, liquors, silver and tin mining, exports of rubber, the tobacco monopoly concessions, and stamp taxes, in

addition to certain taxes on the liquidated profits above a certain per cent of all mining enterprises. Of expenses, the greatest outlay is for the Department of Finance (including public debt charges), War and Colonization, Interior, Public Instruction and Agriculture, with minor outlays for Foreign Relations and Worship, and Legislative Services. The revenue for the year 1904 amounted to $2,825,257; in 1913, $8,606,985, a gain of approximately 230 per cent. The budget for 1914 amounted to: revenues, $8,960,800; expenditures, $8,960,800; 1915, respectively, $6,619,767 and $8,358,454; 1916, $6,247,041 and $8,894,522. Prior to 1908 the Republic was without foreign public debt, a fact that kept expenditures low. At the present time public debt charges consume about 25 per cent of the revenue. Much of this, however, is for public improvements, particularly railroads.

*Brazil.*— The Brazilian Constitution authorizes the Congress (Art. 34) "to organize the financial system, fix the Federal expenditures annually, and examine the income and expense accounts of each financial period," the Chamber of Deputies being given the initiative (Art. 29) in all tax laws. The principal source of National revenue is that derived from high import customs duties and surtaxes, the only export taxes collected by the Federal Government being those collected in the Federal Territory of Acre. The important export duties collected on coffee and rubber belong to the treasuries of the various States. Other national revenues are those on tobacco, spirits and other internal revenue sources, these being imposed by a stamp tax. Great extensions have been made in public improvements, transportation, education, agriculture, etc., for which vast sums have been voted, in many cases by the issue of bonds. The expenditures in connection with the public debt aggregate about one-third of the whole, the next highest being that of Roads and Public Works, in charge of a single Ministry. Other large expenses are those for the army and navy. The budget for 1914 amounted to: revenues, $184,984,656; expenditures, $193,786,631; 1915, respectively, $189,511,350 and $121,411,608; and 1916, $161,445,642 and $177,827,858.

*Chile.*— The Chilean Constitution (Art. 36) authorizes the Congress, exclusively, "to approve or reject annually the estimated disposition of funds intended for the expenses of the Public Administration, which the Government must present," and (Art. 37) "fix annually the expenses of the Public Administration," while the President of the Republic must first propose to the Council of State, or Cabinet (Art. 105), "the annual budget

of expenses that the Congress has to pass." The revenues are derived from customs receipts — import and export — the export of nitrate yielding in the neighborhood of two-fifths of the total Government income, the two other items paying an export tax being iodine and silver bars of a fineness of 50 per cent or less. The other large source of income is the Government railways, yielding from 3½ to 4 million dollars annually. In 1914 the revenues amounted to $51,513,345; expenditures, $64,089,385; 1915, respectively, $53,919,938 and $37,509,154; and 1916, $47,062,462 and $48,398,482. The principal expenditures are those of the Treasury (including public debt charges), Railways, Interior, Instruction, War and Navy, with large provision for Industry and Public Works.

*Colombia.*— The Constitution of Colombia (Art. 76) authorizes the Congress "to establish the National revenues and fix the expenses of administration." . . . "The budget shall be voted for both during each legislative session." . . . "In the budget there shall be included no item that does not correspond to an expenditure decreed by a prior law, or to a credit judicially recognized." The Chamber of Representatives (Art. 102) shall "initiate laws that establish contributions." About three-fourths of the National revenues are derived from customs duties. In addition to the other usual sources of income, revenues are collected from salt and the native emerald mines. The chief items of expense are public debt charges and the Ministry of War. Besides these, large sums are annually appropriated for public improvements, particularly port works and transportation. In 1913-1914 the revenues amounted to $15,922,500; expenditures, $15,550,975; in 1914-15, respectively, $12,974,202 and $14,254,570; and 1915-16, $10,542,812 and $14,613,133.

*Costa Rica.*— The Costa Rican Constitution authorizes the Congress (Art. 73) "to fix taxes and National contributions." The principal revenues of the Government are derived from customs duties, spirits, railways, posts and telegraphs, and the expenditures are greatest in finance (including public debt charges), public instruction, and internal development and improvements. The budget for 1914 amounted to: revenues, $3,908,633; expenditures, $4,542,493; 1915, respectively, $3,522,139 and $3,758,177; and 1916, $3,783,141 and $3,778,730.

*Cuba.*— Cuba is one of the few exceptional countries that were not affected as to their revenues by the present war, the facilities for transportation and the abundance of staples raised on the Island, along with the increased prices of all products,

save a temporary decrease in tobaccos, increasing the industry of the Republic. The principal sources of revenue are customs duties and consular fees, and the chief items of expenditure are: Home Affairs, Public Instruction, Public Works, and Finance (including public debt charges). The budget for the biennial period ending 30 June 1914, amounted to: revenues, $37,940,200 per annum; expenditures, $33,974,147; and for the two years ending 30 June 1916, revenues, $41,828,580 per annum, and expenditures, $40,262,905.

*Dominican Republic.*— The chief public income of the Dominican Republic is derived from customs duties, in addition to sugar, spirits and stamp taxes, posts, telegraphs and telephones, and civil registration. The chief item of expenditure is that of the public debt service, an arrangement being in force between the Republic and the United States whereby the latter controls the Customs Service to the end of guaranteeing interest and principal of the National obligations. The revenues of the Republic in 1913–14, fiscal year, amounted to $5,035,250; expenditures, $4,890,216; 1914–15, revenues, $5,035,250; expenditures, $4,890,216; and 1915–16, $3,460,000 and $4,406,567.

*Ecuador.*— Ecuador's revenue is derived principally from customs dues (import and export) — 70 per cent — with 15 per cent from cocoa, land, white rum, and tobacco taxes, and the remainder chiefly from the postal department and rents from state property. The chief expenditures are those of the Government, army and navy, and education. Public debt charges amount to about one-eighth of the total. The budget for 1914 amounted to: revenues, $8,039,293; expenditures, $9,645,375; 1915, respectively, $10,235,271 and $10,110,339; and for 1916 the same, in default of a new budget having been voted.

*Guatemala.*— The principal revenues of Guatemala are customs duties, these being upwards of four-fifths of the total. Considerable revenue is also derived from the export tax on coffee. About one-half of the expenditures of the Government are in connection with the public debt service. The total revenues from 1911 to 1916 inclusive amounted to $13,274,910; expenditures, $10,246,518, leaving a balance of $3,028,392. The budget for 1912–13 (fiscal year) amounted to: revenues, $3,458,417; expenditures, $2,190,062; 1913–14, revenues, $2,059,998; expenditures, $1,218,395; 1914–16, $1,625,000 and $1,502,066; and 1915–16, $3,451,026 and $2,346,631. With the exception of the last fiscal year named there may be a considerable variance in the preceding estimates due to the great fluctuations in the local currency in terms of which the Government estimates.

*Haiti.*— Customs duties are the principal source of revenue of Haiti, and the principal disbursement is in connection with the public debt service. The revenues in 1912–14 (fiscal year) amounted to $4,984,025; 1913–14, $6,027,216; and 1914–15, $6,296,516. The expenditures for these years are not available.

*Honduras.*— Honduras derives its chief income from customs revenues, in addition to which taxes are collected on spirits, tobacco, and powder — these being monopolies of the Government. Public external debt charges for the present are dormant. Revenues for 1913–14 (fiscal year) amounted to $2,228,432; expenditures, $2,163,181; 1914–15, $2,256,631 and $2,085,645; and 1915–16, $2,406,360 and $2,386,359.

*Mexico.*— Taxes on foreign commerce (customs duties, etc.) constitute the principal source of Mexican revenue, followed closely by Federal internal revenues. In addition there are divers special taxes and a lottery under Government patronage. The principal expenditures of recent years have been for the army, followed by the public debt service. The revenues for 1912–13 (fiscal year) amounted to $58,906,984; expenditures, $53,970,771; 1913–14, revenues, $64,433,582; expenditures, $64,336,591; and 1914–15, $70,649,230 and $74,123,761.

*Nicaragua.*—At the present time the chief disbursements of the Nicaraguan Government are for the public debt service — interest and liquidation. In addition, due to lack of domestic transportation facilities, appropriations are being made for highways, railroads and port facilities. This is now possible, inasmuch as the extraordinary expenses occasioned by the revolution of 1909 have been either paid or funded. The chief source of income is from customs duties. The revenues for the year 1913–14 amounted to $3,712,779; expenditures, $3,726,889; for 1915–16, revenues, $2,147,787; expenditures, $2,146,252.

*Panama.*— With the exception of supplies brought into Panama for the construction and maintenance of the Canal and the maintenance of employees — the subject of an agreement with the United States — all imports are subject to customs duties which are the chief source of Government income. The chief expenses are: Government, Public Improvements, Education, and Public Debt. The Republic has no navy to support. The revenues in the year 1914 amounted to $3,799,170; expenditures, $4,439,244; for 1915 and 1916 (biennial budget), revenues, $10,345,828; expenditures, $11,343,957; and for the years 1917 and 1918 the Government estimates that the disbursements will amount to $7,198,170, for which revenue provision has been made.

*Paraguay.*— The chief source of revenue in Paraguay is from the customs — both import and export. The principal exports indigenous to the country on which taxes are collected are woods, particularly quebracho and its extract, hides, cattle on foot, yerba maté, and tobaccos. In addition there is a system of internal taxes, and special fees for the maintenance of special services. Expenditures are largely for internal improvement, and Government and Public Debt charges, the last named being small. Due to the present European war, causing a depreciation of the domestic paper currency, some difficulties were felt in 1914–15 in exchange and financial operations, and by the Government in its customs collections. However, by strict retrenchment and rigid economy, trade, revenues and expenditures have now adjusted themselves, the country to-day having a favorable balance of trade. The revenues for the year 1913 amounted to $4,264,543; expenditures, $4,779,708; 1914, revenues, $3,349,782; expenditures $3,128,493; and 1915, revenues, $2,403,725; expenditures, $1,824,195.

*Peru.*— The principal revenues of Peru are derived from customs, these aggregating one-third of the total, monopolies, direct taxes, and school funds. The greatest expense is that of the public debt service. The greater part of the latter was funded in 1890, the foreign bondholders accepting in full satisfaction all the state railways for 66 years, and certain rights over guano deposits, mines and lands. For the collection of internal taxes on most of the government resources, spirits, opium, tobacco, stamped paper, etc., the Compañia Recaudadora de Impuestos (Tax Collecting Company) has been formed, this institution assuming full responsibility and, in return for a certain percentage, making guarantees not alone as to revenues, but likewise other assistance to the Government. The revenues for the year 1914 amounted to $14,327,695; expenditures, $14,685,309; 1915, revenues, $19,118,789; expenditures, $14,194,204; and 1916, revenues, $13,091,567; expenditures, $14,221,274.

*Salvador.*— The principal source of public revenue of Salvador is that of the customs duties, and the chief expense is in connection with the public debt service. The revenues in 1913 amounted to $6,013,032; expenditures, $9,983,500; 1914, revenues, $4,898,445; expenditures, $10,530,362. While figures are lacking as to the years following the outbreak of the present European war, official statements (see Supplement to Commerce Reports, 4 Nov. 1915) indicate that distress was felt in Government finance — the customs receipts decreasing appreciably and exchange being very unfavorable to the local currency.

*Uruguay.*— One-half of the revenue of Uruguay is derived from customs, the next in importance — one-ninth — being the direct property tax. In addition, factory and tobacco taxes, trade licenses, stamped paper and stamps produce an appreciable amount. Of the expenditures, the National debt service consumes one-half, the next in importance being War and Marine, Public Instruction, Agriculture, and Public Industry. The revenues for the fiscal year 1913–14 amounted to $37,921,556; expenditures, $37,839,196; 1914–15, revenues, $33,275,577; expenditures, $33,099,082; and 1915–16, revenues, $28,808,972; expenditures, $28,710,910.

*Venezuela.*— The revenues of Venezuela are derived in great part from the customs duties, supplemented since the breaking out of the present European war by a high surtax, amounting to 30 per cent on the regular customs, there being in addition a special tax of 25 per cent on import duties. Spirits, stamps and stamped paper, taxes on cigarettes and matches, and the salt revenue constitute about one-third of the Government revenue. The public debt service is the greatest item of expenditure, followed by the Department of the Interior, and War and Marine. The revenues for the fiscal year 1913–14 amounted to $12,996,639; expenditure, $13,932,895; 1914–15, revenues, $7,150,134; expenditures, $7,149,904; and 1915–16, $7,713,018; expenditures, $7,713,009.

The best source of general information on Latin American Budgets, with much specific data, is the *Proceedings of the First Pan American Financial Conference*, Washington, May 24 to 29, 1915. For late data, consult *Statesmen's Year Book* and *Whitaker's Almanac*, and *Commerce Reports* and *Supplements to Commerce Reports*.


SOUTH AMERICA
CARIBBEAN SEA
VENEZUELA
COLOMBIA
GUIANA
BRAZIL
PERU
ECUADOR
PACIFIC OCEAN
Mouths of the Amazon R.
Fernandina I.


Valparaiso
SANTIAGO
Concepcion
BUENOS AIRES
MONTEVIDEO
URUGUAY
Pelotas
Porto Alegre
RIO DE JANEIRO
Gulf of St. George
Railroads
Principal water routes

# HISTORY AND DEVELOPMENT

OF THE

# LATIN AMERICAN COUNTRIES

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1. South America
2. Mexico
3. Central America and Panama
4. West Indies

# ARGENTINA

*OR THE ARGENTINE REPUBLIC*

## PHYSIOGRAPHY OF ARGENTINA

By Enrique Nelson

Director-General of Secondary, Commercial and Industrial Education of the Argentine Republic

THE Argentine Republic is situated in the southern extremity of South America, between the 22d and 55th parallels of south latitude and between the meridians of 54° 20′ and 73° 30′ of longitude west of Greenwich, the greater part of the territory thus lying within the temperate zone. It is bounded on the north by Bolivia, Paraguay, and Brazil, on the east by Uruguay, and on the west by Chile. Its eastern boundary is composed entirely of maritime or fluvial coasts, in direct contact with the world's commerce by means of numerous ports of easy access. Its area is 1,153,119 square miles.

I. The most notable characteristic of the country is found in its Pampas which cover more than three-fourths of its surface. The plains, however, can be further divided into four great sections: (1) The Chaco plains, between the rivers Pilcomayo, Paraná, and Salado del Norte, comprising the eastern portion of Jujuy, Salta, and Tucuman, the Territory of the Chaco, part of the province of Santiago del Estero and the north of Santa Fé; all of it being warm, thickly wooded, and rich in excellent timber. Here preference is given to the cultivation of sugar-cane, cotton growing and quebracho-cutting. (2) The pampas properly so called, most notable on account of the uniformity of level and the almost total absence of trees, but covered by excellent pastures in which gramineous grasses preponderate. This region is gradually

being devoted to agricultural purposes such as the cultivation of wheat, linseed and corn, after having first served for cattle feeding. (3) Between the last two regions the saline plains extend from the range of Aconquija to that of Córdoba and reach to the Salado River. This region derives its name from the great amount of salt covering the soil. (4) The southern plains, south of the 38th parallel, and popularly known as Patagonia, comprise the territories of Rio Negro, Chubut, Santa Cruz and Tierra del Fuego, sloping down from the Andes in three successive inclines.



**Capitol Building, Buenos Aires, Argentina**
*From Architect's Drawing*
(Courtesy of the Pan American Union)

" Stock farming, especially sheep farming, dominates in this field, yielding large profits," says Mr. Marrion Wilcox, an American expert in Latin American countries, adding: " New port works, extension of the sheep industry, plans for rendering navigable the Patagonian rivers, the production of minerals in the Cordillera and the Far South — all these forms of activity show that in a commercial sense Patagonia is to be regarded as a land of the future." (In Bulletin of the American Geographical Society, Vol. XLII, No. 12, pp. 903, seq.).

II. The Argentine Mesopotamia lies between the rivers Paraná and Uruguay and comprises the provinces of Entre Rios and Corrientes and the national territory of Misiones. At its southern extremity the rich alluvial soil covering the numberless islands forming the delta of the Paraná River has helped the

development of a luxuriant vegetation. Toward the north a network of streams intersect an undulating land where tree-clad hill slopes alternate with rich meadows. At Corrientes the soil is damp and marshy but rises again in Misiones, where it becomes hilly.

III. The mountains belong to four separate systems, of which the most important is the Andean system. The coasts are 1,500 miles in length and are generally low and sandy from Buenos Aires to Rio Negro. South of this point they are higher, often raising in bluffs and cliffs forming innumerable gulfs and bays. In the Plata estuary the most interesting island is Martin Garcia which commands the mouth of the rivers Paraná and Uruguay. About 400 miles off the shores of Santa Cruz are the Malvinas islands, which the Argentine government claims as part of its territory although England has occupied them since 1833, having named them Falkland Islands.

Tierra del Fuego is also an island, belonging half to Argentina and half to Chile. Staten Island, separated from Tierra del Fuego by the Lemair strait, is used as a place of deportation for criminals. There are several other islands of lesser importance.

Omitting all minor differences, the Argentine Republic may be divided into three great sections: the Central plains, the river region on the Eastern side, and the mountain systems.

The Cordillera of the Andes which runs throughout the whole extent of the Argentine Republic and forms its western limit is the most important mountain system of the country. Commencing at the extreme south of the Republic in the shape of low ranges of hills, isolated by the waters of the Pacific which, in addition, have invaded its valleys, forming an immense number of picturesque channels, it little by little became of greater height and breadth until it forms in the north the elevated tablelands of Atacama and Jujuy, with a mean height of 13,000 feet above sea level. The abundant vegetation which covers its lower slopes in the south disappears on passing beyond the 37° of latitude, and in the same manner the snow, in the north, has only a permanent character on the summits of the most elevated peaks, such as the Aconcagua, Mercedario, Tupungato, and Juenal. Another interesting feature of the southern part of the Cordillera is the existence of deep gullies which run through it and allow the passage of important rivers formed by the waters of the eastern slopes, which otherwise would have found an outlet toward the Atlantic Ocean. Besides the Andean system there is a Central system formed by three parallel ranges known by the general name of Córdoba and San

Luis ranges; the Buenos Aires system formed by two isolated ranges, and the Misiones system formed by the western extremity of two mountain ranges entering the Argentine territory from Brazil and forming a letter Y by their joining together.

In regard to the hydrographic system of the country, we may divide it into four systems: the system formed by the rivers within the Plata basin; the central system, the Patagonian system formed by the basins of the rivers flowing from the eastern slope of the Andes, and lastly, the system of the province of Buenos Aires.

The basin of the Plata, which includes most of the territory of Argentina and part of those of Brazil, Uruguay and Paraguay, is drained by the river Plata, justly considered as the entrance gate to South America; the rivers Uruguay and Paraná which debouch into the Plata after a course of 900 miles in the first case and of 2,000 in the second; the river Paraguay, which forms the axis of the system and joins the Paraná at 1,200 miles from its source; the Pilcomayo and Bermejo rivers which rise in Bolivia and fall into the Paraguay after having crossed the territory of the Chaco; the Salado del Norte River which runs through the provinces of Santiago del Estero and Santa Fé to discharge into the Paraná near the city of Santa Fé; the river Carcarañá, another affluent of the Paraná formed by the union of the Tercero and Cuarto rivers which have their sources in the Córdoba range; and in addition other rivers of less importance, all of which rise in the province of Buenos Aires and are affluents of the river Paraná and the river Plata.

Mr. E. L. Corthell, an American engineer, says that "the Paraná has a larger discharge than the Mississippi; its annual flow is double that of the Ganges, three times that of the Saint Lawrence, four times that of the Danube, and five times that of the Nile. There are records of 608 cubic miles in one year." The Paraná River is one of South America's great waterways. Transatlantic steamers of 10,000 tons drawing 23 feet can enter the river up to Rosario, 240 miles from Buenos Aires. Those of 6,000 tons can reach the ports of Paraná and Colastiné. Specially constructed vessels can go farther, to Corrientes, 640 miles above Buenos Aires. At Corrientes the Paraguay River flows into the Paraná which at this point makes a sharp turn toward the south. From the point of view of navigation the Paraguay River is a natural continuance of the Paraná. Steamers drawing 13 feet ply from Buenos Aires or Corrientes to Asunción, on the Paraguay River, during nine months of the year.

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The Upper Paraná, from Corrientes toward the east, is navigable by large boats only to the falls of Apipé, 145 miles above Corrientes. But smaller steamers ply regularly beyond Apipé up to Posadas and still smaller craft up to near Iguazú Falls, on the boundary line between Argentina, Paraguay and Brazil.

The river Uruguay is navigable by large steamers up to Concordia which is an important agricultural and commercial centre. But during the floods the river is everywhere navigable. These floods are quite sudden but not long continued. The floods of the Paraná are much longer continued, because its source is in the tropical and rainy regions of Brazil and it receives also, through the Paraguay, the waters from the flanks of the Andes. At the confluence of the latter river with the Paraná at Corrientes, the rise of the floods is about 33 feet; at Rosario it is from 19.7 to 23.5 feet.

Of the other rivers belonging naturally to the Plata system, such as the Pilcomayo, the Bermejo and the Salado, none at present is of economic importance. Further south the Paraná River receives the Carcârañá, formed by the confluence of the Tercero and Cuarto rivers which drain the southeastern part of Córdoba. These rivers are used for irrigation purposes and the Argentine government has entered into an extensive program of irrigation works contemplating the reclamation of large tracts of land along the valleys of these rivers and also of the Quinto, which more properly belongs to the Central system.

The Central hydrographic basin is formed by a vast depression that in its lowest part is occupied by the lakes of Porongos and Mar Chiquita into which several rivers such as the Dulce and the Primero and Segundo fall. Irrigation works in these rivers have been going forward on a large scale. The Rio Primero dam holds 260,000,000 cubic meters and the Segundo River dam 350,000,000 cubic meters.

The hydrographic basin of the Colorado River commences in the north of Rioja with several rivers which, after forming the Vermejo, are lost in the lagunes of Huanacache, together with the rivers San Juan and Mendoza; and in succession to these we have the streams that run from north to south, which join their waters with the Desaguadero or, as we may call it, the channel for the discharge of the lakes of Huanacache, and this conjunction flows on toward the south under the names of Salado, Chadileuvú, and Curico until it falls into the Colorado, having on its course southward formed many lakes and marshes; and lastly the Grande and Barrancas that in combination form the Colorado River, which


C D E F G H
1 2 3 4 5
BOLIVIA
MATTO GROSSO
SÃO PAULO
MINAS GERAIS
SANTA CATHARINA
RIO GRANDE
URUGUAY
Tucuman
Cordoba
Mendoza
VALPARAISO
SANTIAGO
Porto Alegre
San Paulo
Montevideo
OCEANO


SOUTH AMERICA
(SOUTHERN PART)
Railroads
Submarine Cables
Size of type indicates relative importance of places
Principal water routes
Falkland Islands
Strait of Magellan
Gulf of St. George
San Matias Gulf
Cape Horn
Longitude West from Greenwich

having traversed the Pampa from east to west debouches into the Atlantic Ocean a little to the south of the estuary of Bahía Blanca.

Most of these rivers are used for irrigating the grape and fruit districts of Mendoza and San Juan, as well as the pasture lands of San Luis.

The basin of the Rio Negro is also of great importance, being formed by the streams which flow down from the Cordillera of the Andes between 37° and 41° south latitude. This basin, like all the others that are found further south, has the peculiarity of encircling within it a large number of lakes which, whilst constituting one of the principal attractions of the Cordillera of the Andes, have a beneficial influence on the regulation of the waters. There are several other lakes whose natural drainage is the River Limay which, together with the Neuquén forms the Rio Negro, the mouth of the main river on the Atlantic being a little to the south of the Rio Colorado. The island of Choele-Choel, renowned for its great fertility, is about midway between the confluence of the Limay and Neuquén and the sea, but nearer to the former.

Extensive irrigation works are being completed at Negro River, with the purpose of irrigating the barren pampas stretching between that river and the Colorado, as well as the lands south of the Negro. The Patagonian rivers are also navigable to a certain extent. Flat boats have to be used, however.

The drainage of the remaining lakes of the Cordillera is effected by means of the River Senguer, an affluent of the Chubut; the beautiful lakes of Buenos Aires and San Martín, whose waters make their way through the Cordillera of the Andes to fall into the Pacific in the same manner as do those of the Lake Lacar and many others farther north; the Argentino and Viedma lakes whose drainage forms the river Santa Cruz, one of the most important in Patagonia, which, with the Deseado and the Gallegos, completes the hydrographic system of this region.

The most important rivers of the province of Buenos Aires are: the Salado del Sur, whose valley is considered as being only a continuation of that of the Rio Quinto, which flows down from the "Sierras" of San Luis. This river gives rise to important lagunes and receives, before falling into the bay of San Borombón, the superfluity of waters of many others.

The remaining rivers of that province which debouch directly into the ocean are: the San Borombón, Quequén Grande, Quequén Salado, Napostá, Sauce Grande, and Sauce Chico.

As regards the Argentine Mesopotamia, it is, on account of the impermeability of its soil, a region traversed by numerous

rivers and streams which flow into the Paraná and Uruguay. The province of Corrientes, in particular, contains the immense lagunes of Iberà and Maloya, up to the present almost unexplored.

To conclude this hydrographic sketch of the Republic we may call attention to the existence of a certain number of depressions, occupied by salt lakes and deposits of salt, that constitute so many additional basins into which there flow streams of brackish water, which, on evaporation, deposit the salt they held in solution, forming real natural salt pans, some of them being worked to supply the requirements of the inhabitants of the interior. In the high tablelands of Atacama and Jujuy are other deposits which are doubly interesting on account of the deposits of borax which they contain. There are, also, distributed throughout the whole Andine region, numerous water-courses, which are taken advantage of near their sources for the irrigation of the soil but which, their course being through immense zones of permeable land, are quickly lost in the subsoil. Amongst these we may mention, as examples, the rivers Tala, the Valle, and the Paclín, which give life to the beautiful valley of Catamarca, and to the city of that name. Irrigation works are also prominent in some of these rivers.

## Climate

Almost any desired climate, from tropical to frigid, may be had in a country that extends through more than 34 degrees of latitude, or more than 2,300 miles, from latitude 22 to 56 south, and is in places 800 miles wide. Conditions vary widely in the same latitude. Rainfall diminishes from the east to the west until the very base of the Andes is reached. Temperature is highest in the central part of the country, falling rapidly in the Andean region to a point many degrees below the temperature of localities due east. Temperature also diminishes toward the south.

In the northern part of Argentina the transition from the rainy to the dry season is very marked. A four season climate prevails in Corrientes, Entre Rios, Santa Fé, Córdoba, Buenos Aires, Mendoza, San Luis, and the remaining country lying south. However, there is always a prevalence of rains from October to April. In the provinces of Corrientes, Salta, Jujuy, Catamerca and Santiago del Estero, and the territories of Chaco, Formosa, Andes, and Misiones, climatic conditions are those of subtropical countries. In Buenos Aires, Santa Fé, Entre Rios, La Rioja, San Juan, and San Luis, south of Corrientes, Santiago, and Catamarca, and territories of La Pampa, Neuquen and Rio Negro, the

climate is temperate. In Santa Cruz, Tierra del Fuego and Chubut the climate is cold but not so severe as to prevent these southeastern regions from being habitable.

The highest recorded temperature, 120°, was during the hot wave on February 1900, in the province of Catamarca at the extreme north, and the lowest recorded temperature was 3°, in the southern extremity of the continent, a range of 117° of temperature in 33 degrees of latitude. The Argentina weather bureau states, however, that lower temperatures are probably experienced in the interior of the territory of Santa Cruz. In the northern part of the Litoral the ordinary range of temperature is from 41° to 106° and in the southern section of the Litoral the usual limits are from 32° to 102°. This is the territory in which most of the corn is raised, and the summer temperature averages from 72° to 77° and is rarely above 96°.

The meteorological system of Argentina consists of 200 meteorological and 1,600 rain-gauge stations. Besides, the Argentine Weather Service receives information from 12 Brazilian, 10 Chilean and 6 Uruguayan stations. The Argentine weather map issued daily shows conditions reigning from Pará (Brazil) to the southernmost limit of the continent. At the South Orkney station (lat. 61 deg. south) there is a fully equipped meteorological and magnetic station. The hydrometric service has established nearly 150 river gauges and information is published in the daily weather map as to the depth of the water at the principal ports and shallow passes of the navigable rivers as well as timely warnings of the approach of the freshets in the rivers. The magnetic service is well equipped for the observation of the solar spots and spectroscopic observations, atmospheric electricity, kite work and the preparation of the isogonic chart of the country.

## Geology

In the Tertiary period the uplifting of the Cordilleras and of the Andes was effected, and the levelling of the Pampas, giving to the country the physical aspect of to-day.

The Pampean system is characterized by the abundance of deposits of an argillaceous sand of great fineness, of gray color peculiar to deposits of sand and clay or alumina, the first of which encompasses the slopes of the Sierras, whilst the second is found along the margin of the Plata. The Pampean system is characterized, moreover, by an abundant and marvellous fauna of fossil mammals.

The works of Florentino Ameghino, who collected hundreds of fossil specimens on the banks of Patagonian rivers will help in clearing up many points related to the origin and distribution of mammals, man included. The fact that most of the fossils appear in formations older than those in which the same species are to be found in the Northern hemisphere is leading some paleontologists to assign man an antiquity not hitherto suspected. In this connection the finding in 1914 by a commission from the Buenos Aires Museum of Natural History of an arrow head — evidently the work of man — imbedded in a bone of Toxodon remains, one of the most sensational paleontological discoveries of the age. To comprehend the abundance of fossil mammals in Pampean soil it is necessary to remember that in the Cretacean epoch the Southern hemisphere contained relatively more land than water; whilst in the Northern hemisphere the contrary condition existed. This naturally greatly favored the deposit of a varied fauna of mammalia.

The Cretacean epoch is represented in Argentina by the Chubutian and Guaranitican formations, which belong respectively to the lower and upper Cretacean. The former extends over the territory of Chubut, occupying the most central part, and is characterized by a very hard sand of very marked color. Both land and marine fossils are found in it. The latter formation is found in Corrientes and Misiones, reappearing in the Rio Negro and also in Chubut, resting upon the former.

The period of the Tertiary epoch is represented along the coast of Patagonia and seashore region from Puerto Madryn to the bottom of the gulf of Nuevo, as far as the mouth of the Santa Cruz River, where it disappears under the Atlantic. The fossils are marine on the coast, and land toward the west. To the south of Patagonia, between the rivers Chico and Gallegos, there extend other formations of the same period.

The Oligocene period is represented by a succession of layers principally of marine origin, which appear in the province of Entre Rios along the whole length of the Paraná River. The same layers reappear farther south at the mouth of the River Negro and extend along the Patagonia coast as far as the gulf of Nuevo.

Remains of the Miocene period cover the central and southwestern Pampas, as well as a portion of Catamarca and Tucumán. To this period belongs the immense quantity of rounded gravel which covers the whole surface of Patagonia from the River Negro to the south.

Of the Pliocene period may be found representations in the Pampean formation, or in the great deposit of lime and reddish gray clay which covers the province of Buenos Aires.

Representations of the Quarternary and recent epochs are met with in isolated deposits throughout the length of the Republic.

## Flora

According to Professors Holmberg, Spegazzini, and Gallardo, the Argentine flora represents almost one-tenth of the flora of the world. Professor Stuckert claims to have studied and classified as many as 8,000 phanerogamous and vascular cryptogamous plants. The number of known plants among the cryptogamous alone is calculated at 3,000 species. Only a fourth of the phanerogamous and less than a tenth of the cryptogamous plants have been classified. The microscopic flora is almost entirely unknown.

The province of Buenos Aires is almost devoid of trees; the only part where any are found is along the coast, but they are small and consist principally of mimosæ, which make excellent fuel. Calden is to be found in the west. In part of Santa Fé, the Chaco, Santiago del Estero, Entre Rios, Corrientes, Misiones, Tucumán, etc., there are immense forests of the finest and most useful classes of trees, from the easily worked cedar to the quebraco (axe breaker) used for railway sleepers, ñandubay for fencing posts, lapacho, algarrobo, and numerous varieties of wood for shipbuilding and furniture. The ombú is useless as timber, and is not even suitable for firewood, but is valued for its shade, while the ceibo bears an extremely beautiful flower of a deep crimson color.

## Fauna

Very few species of animals pertain exclusively to Argentina. Among the mammals are recognized two, the vizcachá, which is not found outside of the Pampas, and the hare of Patagonia. Among birds may be numbered two species characteristic of Argentina; the marineta, a bird of the heron family, and the gallito, or small cock, which also live on the Pampas, but farther south than the two species first named. Most of the animal species which live in Argentina are met beyond the frontiers of the country in Brazil, in Bolivia, and in Chili. Some of these are also common to the Antilles and to North America.

There is a great variety and diversity in the fauna, according to the region studied, since the animals of the east or of the north

differ considerably from those of the west and the south. Dr. Lahille has divided southern South America into three regions: (1) The Andean, which comprises the whole of Chili, all of Patagonia, and the greater part of the Andean provinces; (2) the central region, formed by the basin of the Paraná River; (3) the Brazilian, which comprises the territories of Misiones, a part of the province of Corrientes, and also the northern part of the Republic of Uruguay. In the eastern zone of Argentina live the animals that have emigrated from the tablelands of Brazil.

The wild animals are numerous, being the jaguar (tigre), puma (leon) and various kinds of wild cats, the aguara-guazu (fox of Paraguay), an animal of a reddish color with a black stripe along the back; gray and red foxes, various kinds of weasels, otters, skunks or polecats, nutria, a rodent which is called an otter but is Myopatamis Copyus, having a tail like a rat; seals, opossums, raccoons, vicuña, huanaco, elamas, and alpacas, the last two said to be the domesticated varieties of the preceding two, various kinds of deer varying in size from that of the red deer of Europe down to 18 inches in height; armadillos of four varieties, the wild guinea pig, the pampa hare, which is not a hare but Dolichotis Patagonica; and several monkeys, carpincho or water hog, vizcacha or prairie dog, tapir, peccari, ant-eaters. The vizcacha was some years ago very numerous, but is not now to be found in the inside camps, that is land that has been stocked for many years, as a war of extermination was waged against them some 25 or 30 years back. Birds are also numerous, the more notable being the vultures, hawks, ostrich (rhea or ñandu), eagles, owls, parrots, woodpeckers, ovenbuilders, humming birds, ibis, flamingo, spoonbill, swallows, pigeons, doves, egrets, storks, wood turkeys, partridges of various kinds, snipe, plovers, ducks, swan, geese, gulls, bustard, and in the far south the penguin and other sea birds. The house sparrow was introduced some years ago and has now become a thorough nuisance, as are also the descendants of imported hares in Santa Fé and the north of Buenos Aires.

The best fish are the pejerrey (a kind of trout), dorado (something like salmon but of a golden color), corvina, palometa, pacú, anchoa (a large fish not a bit like an anchovy), flatfish, zurubi, an immense yellow and black spotted catfish. The only fish we know that will take the artificial fly are the pejerrey, dorado, and the mojarra, a small fish very like a sardine. Alligators are still to be found in the upper Paraná and Paraguay; iguanas are to be found in the northern provinces and lizards throughout the country.

Snakes are numerous but the only dangerous ones are the rattlesnake and the vibora de la cruz; possibly some of the large water boas may be so, but no instance has been reported of man being attacked by them.

Some years ago it was successfully demonstrated that oysters could be brought from the favored localities of the United States and placed in the bays of the Atlantic Coast of this Republic and there multiply, grow, and fatten.

For an account of the characteristic fauna — especially the mammalian fauna — of the Neotropical Region, which includes Argentina, the reader is referred to the paragraphs under Fauna and Flora in the chapter LATIN AMERICA, pp. 11 et seq.

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## POPULATION AND IMMIGRATION

The population returns of the 1914 census, published in September 1916, gave 7,885,237 inhabitants as the total population on 1 June 1914. The *Argentine Year Book*, 1915-16, gives, as the estimated population for 1915 (a calculation by the National Statistical Office), 7,979,259. The estimates 9,000,000 or 10,000,000 frequently given appear to be based upon the growth of cities, with which the rural population does not keep pace. The urban population, constituting 42.8 per cent of the total population of Argentina in 1895, increases from year to year out of all proportion to the rural; and the movement toward the cities, especially Buenos Aires, has been marked in the decade 1908-1917.

Of the total population of the Republic about 2,000,000 are foreigners, or more than 25 per cent as against 10 per cent in the rest of South America and 13 per cent in the United States. About one-fifth of the entire population of the country is in the capital city, of which about 40 per cent are foreigners. This shows that an undue proportion of immigrants remain in Buenos

Aires, while the sparsely settled country districts have received a minority of them. To counteract this tendency the Immigration Bureau now offers free lodging during 10 days in the agricultural centres to all those immigrants willing to go there. Transportation to those districts is also free to the immigrant, his family, and baggage.

Only second and third class passengers are considered immigrants by Argentine law. Immigration regulations are very strict regarding health of immigrants and the hygienic and safe conditions of steamers carrying them. On their arrival at Buenos Aires immigrants are provided with board and lodging, valid for five days, which term may be renewed in case of sickness. The Immigrants' Hotel is a model establishment offering accommodation for 1,000 persons at a time. Dormitory buildings, dining hall, lecture rooms, lavatories and hot and cold baths and swimming pools are the chief features. There are also immigrants' hotels at Rosario and Bahía Blanca. The National Labor Bureaus use every means to find a situation for the immigrant in the art, craft or industry in which he wishes to apply himself. Since the country was opened to immigrants in 1854 about 4,750,000 immigrants have entered Argentina, of which number 30 per cent have returned to their native land. In 1913, the year before the European war, 302,047 immigrants entered Argentina. The immigrants have come in great numbers from Italy and Spain, and lately from Russia and the Balkans. The immigrants can acquire rich government land without being subjected to naturalization. Provision is also made for the supply of the necessary funds to furnish the colonist with implements and other equipment to enable him to begin work immediately.

One of the drawbacks the country has had to contend with is that the feudal land system instituted by Spain was continued under the republic. The conquered land in the provinces was already mostly held in private estates. The remnant was won by degrees from the Indians. After conquering from them the rich lands of southern Argentina in 1885, land was sold off in blocks with a square league (6,250 acres) as a unit at a nominal price. The army received a vast grant of these lands in payment of the work accomplished. All these tended to create vast latifundia which, fortunately, are being gradually broken up. From 1905 to 1915 the number of holdings of less than 12,000 acres has increased in the proportion of 100 to 171, while the number of big holdings of 12,000 acres upward has diminished in the proportion of 100 to 56.

# HISTORY OF ARGENTINA

By Juan A. Sevillosa
Former Argentine Consul-General to Canada

Spain, not being satisfied with the discoveries and conquests which she had effected in America, was made ambitious by her rival, Portugal, regarding the known riches of the Molucca Islands in the Malay Archipelago. To possess herself of these she looked for a channel between the Atlantic and Pacific oceans traversing the new continent, and the mission of finding this was entrusted to the most able mariner of the day, Captain Juan de Solis, who in 1515 A.D., navigating with two boats along the coast of America, arrived at 35° south latitude. He proceeded along what is now known as the river Plata (Rio de la Plata) until he reached the mouth of the Uruguay River, and anchored his vessels there, in front of a little island which he named Martin Garcia, in honor of the second commander of the expedition.

Solis and some of his companions went to the eastern bank of the river, but they had hardly disembarked when they were killed by the Charrua Indians. Deprived of their leader the company did not venture to begin the exploration of the newly-discovered country, and returned to Spain. This dismal failure disheartened the Spanish government until 15 years later, when the discovery of Brazil and the conquests of the Portuguese revived the ambition of Spain. In 1526 the Spanish government sent nearly simultaneously two expeditions to the south, one under the command of Diego Garcia, with the intention of stopping the advance of the Portuguese, and the other in charge of the English captain Sebastian Cabot, with the object of finding an interoceanic passage. The lack of provisions and a mutiny among the sailors prevented Cabot from carrying out his designs, and unfortunately while navigating in the river discovered by Solis, and following the Uruguay River, the detachment that disembarked to explore the region had no better fate than that of Solis and perished at the hands of the Charruas. Cabot therefore changed his route and discovered the mouth of the Paraná. Here he established in the delta the first European port in the region of the Rio de la Plata, the fort Espíritu Santo. Ascending the Paraná to its junction with the Paraguay, Cabot began trading with various tribes of Indians, whom he found using many silver ornaments and utensils. This excited the cupidity of the explorer, who, thinking he had discovered a region of silver mines, named the estuary then known as Rio de Solis the Rio de la Plata, or Silver River.

By chance the expedition of Diego Garcia, which, as previously stated, had been sent out to stop the advance of the Portuguese, arrived at the mouth of the river Plata. Quarrels broke out between the two commanders which obliged Diego Garcia to return to Spain, and fearing the decision of the government at Madrid would be unfavorable to himself, Cabot returned to Europe, leaving large supplies in the fort Espíritu Santo, which was soon assaulted in an unexpected way and burned to the ground by the Timbu Indians, who up to this time had maintained friendly relations with the Spaniards.

These early discoveries in the Rio de la Plata led to a great deal of jealousy and desire for territorial expansion on the part of European monarchs. Carlos V., King of Spain and Emperor of Austria, who was at war with Francis I. of France, not being able to disband his army nor to give much attention to the conquest of America, decided to send out exploring parties to annex definitely the territory of the river Plata. A rich Spanish noble, Don Pedro de Mendoza, arranged with his government to equip at his own cost an expedition, on condition that he was to be named governor over all the territories which he discovered or conquered. The Mendoza expedition consisted of a fleet of 14 vessels and about 2,000 men, many of whom were Germans. This force entered the river Plata 20 Feb. 1535, and landed on the spot where now stands the capital of the Argentine Republic. There a town site was chosen, Mendoza giving it the name of Santa Maria de Buenos Aires, which means Saint Mary of the Good Breezes. Subsequently the little town was destroyed by the Querandi Indians who inhabited the region. The expedition escaped to the Espíritu Santo fort, leaving seven horses and five mares, the first herd of horses in Argentina. From Espíritu Santo, Mendoza sent his principal lieutenant, Don Juan de Ayolas, to explore the Paraná River. After numerous fights with the various Indian tribes Ayolas occupied the land and founded the town of Asunción in 1537. He intended later to penetrate as far as Lima in Peru. Mendoza, sick and discouraged, started to return to Spain, but died on the way. Ayolas succeeded him in command of the Spaniards on the Plata.

From Asunción, Ayolas went on an expedition to Peru, and upon his return was killed by the Indians. This expedition brought from Peru some ewes which had been imported from Spain via Panama. These ewes constituted the nucleus of the Argentine flocks. Several years before this seven cows and one

bull, the first cattle in the river Plata territory, had arrived at Asunción.

All the people who did not care to follow Ayolas on his unfortunate expedition across the unknown continent remained in Asunción. Among them were many Germans and some French, Belgians, and Italians. They elected Domingo Martinez de Irala as governor, and that formed the first autonomic government of South America, organizing the first colony and entering into friendly relations with the neighboring tribes of Indians.

The polygamous condition of these tribes made easy the multiplication of the Colonials, thus originating the half-breed type, who in their turn joining with the Europeans gave the racial character of the new population of the region. D'Orbigny thus describes the Mestizo, or mixed blend of people: "The mixture of the Spaniards with the Guaranies produces men of large form, nearly white, and having beautiful faces even from the first generation; large eyes, clear complexion, and nose generally like the Spaniards. As a rule they have scanty beards until the third generation, when it becomes as thick as the white man's."

During the second half of the 16th century, while they were founding and organizing the governments of Paraguay and Rio de la Plata, other expeditions leaving Peru by land explored and settled the interior territory of the Plata. In this way were founded the cities of Estero, Tucumán, Córdoba, Salta, Rioja, and Jujuy. Other conquerors, coming from the general headquarters in Chile, took possession of the Cuyo region and founded the cities of San Juan, Mendoza, and San Luis.

The inefficiency of the military conquest of the Indians and their continued insubordination decided the government at Asunción to try to bring them into submission through the medium of church missions, which they commissioned the Jesuit Fathers, already established in Peru, to undertake. The missionaries founded their schools in Salta, Córdoba, and Santa Fé. Others went to unexplored sections and established missions with the most perfect theocratic government among the Guaranies.

The government of Spain, after the death of Irala, sent out Don Juan de Garay as governor of Paraguay. Needing a fortified position nearer to the ocean, Garay descended from Asunción resolved to reconquer the site occupied by Mendoza in 1536, and succeeded in re-establishing, 11 June 1580, the abandoned colony of Buenos Aires. Plans were made for the laying out of the town which the Indians again tried to destroy. The first inhabitants

of Buenos Aires were 19 Spanish and 50 Creoles. With the founding of Buenos Aires the period of conquest in the region now comprising the Argentine Republic may be said to have finally closed, to be followed by the colonial régime.

The desire to secure communication between Buenos Aires and Asunción necessitated the foundation of various forts and colonies along the Paraná River in the region which to-day constitutes the provinces of Santa Fé, Entre Rios, and Corrientes.

During this time the Portuguese were advancing their explorations south along the Atlantic coast, arriving at the left margin of the Rio de la Plata. This alarmed the Spanish government, which, being powerless to quell the internal anarchy of the colonies while in the midst of the fight with rebellious tribes of Indians, separated Buenos Aires from the government of Paraguay, instituting the Province of Rio de la Plata dependent on the Viceroy of Peru, and named for governor General Bruno de Zabala, who, in 1726, founded the city of Montevideo, now the capital of the Republic of Uruguay.

The Spanish government did not permit commercial importation through the port of Buenos Aires and the colonists of this region were obliged to resort to troublesome transcontinental traffic to reach Lima, the capital of the Viceroyalty, the only market of importation which they could count on. But as Paraguay received direct importations in freight boats for the official agents of the Spanish government, and the traffic necessarily had to pass near to Buenos Aires, the inhabitants of this city devised methods to organize a trade with Cadiz, from which place there were secretly sent to Buenos Aires books that the Spanish government did not permit to circulate even in Spain, which contained comments on the American Revolution and philosophical writings such as preceded the French Revolution. One can understand that these books found eager readers, since the cultured class of Buenos Aires had been recruited from liberals, who, fleeing from persecution in Spain, preferred as a refuge the modest city on the banks of the Rio de la Plata to the brilliant capital of Peru, centre of military and ecclesiastical prestige, and head of an aristocracy formed from descendants of successful adventurers. The liberal ideas of this class separated them somewhat from the theocratic and military influence which ruled the interior, but during the next two centuries Buenos Aires received only such liberal literature as could be smuggled from Europe.

In the middle of the 18th century Spain was engaged in war with Portugal, which, allied with England, sent a fleet to the Rio de la Plata and took possession of a small port on the left bank in front of Buenos Aires. The government sent forces which repelled the invasion, and, in view of the fact that the river la Plata required more safeguards, reorganized the colonial administration, constituting the Viceroyalty of Buenos Aires with its jurisdiction in the territories now occupied by the republics of Uruguay, Paraguay, Bolivia, and Argentina, and opening in 1776 the ports of the river Plata to importation.

The first Viceroy, Zeballos, explored part of the coast of Patagonia. His successor, Juan José de Vertiz, a Mexican of excellent antecedents, dedicated himself to the advancement of the city of Buenos Aires, using for this object the property confiscated from the Jesuits by Carlos III. Buenos Aires at that time, 1778, contained 22,000 white inhabitants, of whom 15,000 were European Spaniards. The total population of the country was 300,000, of whom 10 per cent were negroes or mulattoes. The buildings were almost exclusively of unbaked bricks, roofed with straw. The increase of the horses, abandoned by Mendoza, that had scattered themselves through the pampas, had modified the traits of the Indians of the region, who, becoming horsemen, fled from the harsh treatment of their conquerors.

The facility with which a colonist could make himself a large landed proprietor, and the impossibility of inducing the natives to work, promoted the importation of negroes as slaves, and in 1715 the government had conceded to an English company the monopoly of importing 1,200 negroes a year, which concession, however, was abolished in 1728, although the importation continued in a very light proportion till the beginning of the 19th century.

At this time it was the custom of the wealthy class in these colonies to send their studious young men to complete their education in the schools and colleges of Europe. The unliberal spirit which ruled in the University of Córdoba in the centre of the country did not attract the young men of Buenos Aires.

In 1806 an English expedition, returning from the conquest of the Boer colonies at Cape Town, South Africa, crossed the Atlantic and invaded Buenos Aires. The Viceroy, Sobremonte, fled to the interior of the country, leaving the defence of the city to the Spanish residents and natives. The English assault was repelled, all being made prisoners, although, taking advantage of the confusion, the invaders seized $1,500,000, which was in the

fiscal treasury and which they sent to England. This produced an extraordinary effect in London in regard to the riches of the Rio de la Plata region, and induced the English government to send another and better equipped expedition, consisting of 60 boats and 12,000 men, to take possession of Buenos Aires. This second attempt, however, had no better success than the first, and many English prisoners remained in the country where they eventually intermarried with the natives. The authorities and the Spanish residents accused the masses of sympathy with the invaders; nevertheless the English were freed and received by the first families, thus helping to constitute the liberal element which was later to have the direction of the revolution of independence.

The government of Spain, alarmed at the projects of Napoleon, could not extricate itself from warring elements, and had refused to send aid for the defence of the river Plata. The citizens of Buenos Aires, proud of their triumphs and dissatisfied with the Viceroy, Sobremonte, deposed him, and named as his successor Liniers, a French captain who had helped them in the first defence against the English; but the Spanish government denounced this act and appointed as viceroy a Spanish marshal, Cisneros. At this time, because of Napoleon's domination over Spain, the authority of the Spanish viceroy was not recognized and fresh germs of independence were sown. With this impetus some of the patriots met and announced a government Junta. This assembly took place 25 May 1810, the date which the Argentine Republic celebrates as its birthday. This congress invited all the authorities of the Viceroyalty to join the movement, and founded a periodical of revolutionary tendencies called *The Buenos Aires Gazette;* for it was evident that the power of Spain could only be broken by united effort of the patriots who were scattered throughout the southern portion of the continent, and that Buenos Aires was the natural leader in such an enterprise. The colonial authorities, however, refused the invitation, and, supported by the loyal colonists, repelled the revolutionary expeditions which were later sent from Buenos Aires to overthrow the Spanish authorities.

For seven years the success of the insurrection remained in doubt. The Argentines suffered defeats in Paraguay and in Upper Peru (now Bolivia), and the Spanish held unconquered the fort of Montevideo at the mouth of the river Plata. During this time the enthusiastic propaganda for liberty and equality, and the revolutionary documents sent out from Buenos Aires to all the colonies, had awakened fanciful ambitions and uneasy repinings

among the natives and illiterate semi-barbarous half-breeds, who during the progress of seven generations — more than two centuries — had submissively considered themselves inferior to the whites. So when the Argentines had once conquered the Spanish forts of Montevideo and Asunción, the Provinces of Paraguay and Uruguay declared themselves independent.

By 1815, the leaders having sown anarchy in all the colonies, the revolutionary government of Buenos Aires saw itself beset by the danger of invasion of the territory of the provinces of the Plata by the forces under the command of the Viceroy of Peru, and on the borders of the Plata River by the Spanish fleet. In such emergencies the larger part of the directors of the revolutionary movement felt powerless to follow the model of the republic established by the English colonies in North America, and discussed a monarchical government (one of the leaders even proposed annexation to the British Empire) in order to link the provinces of Rio de la Plata with European countries, and to silence the resentments of Spain. At the same time they would submit to the insurgents who were breaking up the country by encouraging the passions of the half-breeds, and stimulating their narrow clannishness which they disguised under the name of federalism. To bring about a crisis the revolutionary government convoked a congress of representatives from all the provinces united with Buenos Aires. This congress met in the city of Tucumán 9 July 1816, and pledged itself to a Declaration of Independence for the United Provinces of Rio de la Plata, a date which the Argentines celebrate as a national holiday. The Congress of Tucumán, where the local element predominated, decided also that the form of the government should be democratic-republican-federal, by which title the Congress exalted the elements of anarchy and diminished the prestige of the active industrial class which produced the independent movement whose centre was Buenos Aires.

England and the United States, the former to limit the political power of Spain, the latter to remove from the American continent the other great powers, were the first nations to recognize the independence of the Argentines. It was then that President Monroe proclaimed the doctrine, "America for the Americans." However, the Spanish rule was not ended in America, but maintained itself firmly in the rest of the colonies. It was the destiny of Argentina to fulfil her mission of Liberator.

Lima, the capital of Peru, was the centre of the Spanish power which extended through the latter country, Chile, and the northern part of South America, Central America, and Mexico. Besides,

the Spaniards still held the city of Montevideo which was their bulwark on the Atlantic coast.

To reach Lima by land was a task beyond the bounds of possibility, on account of the geographical conditions which favored the Spanish troops by offering them a safe position within easy reach of their headquarters. The Argentine Congress had the good fortune, however, to find a soldier of genius to whom they confided this new undertaking. His name was San Martín. Realizing the risk of meeting the Spanish forces on land, he conceived the project of crossing the Andes to drive out the Spaniards from Chile and to reach Lima by sea. This bold enterprise was secretly preparing for two years, and in 1817 General San Martín led across the Andes an army of 5,000 Argentine soldiers, largely recruited from the hardy plainsmen and cowboys. This little force of rough-riders, by defeating the Spanish troops in the battle of Chacabuco, gave independence to the Chilean people. San Martín was also successful against the Spaniards in Peru, entering Lima as a liberator in 1821. Though urged to take the civil government of the countries he had freed, this soldier of splendid quality refused the rewards, honors, and offices of civil life, which men fulfilling similar missions in other countries have almost without exception consented to receive.

While the patriotic army gloriously ended their campaign on the Pacific, ambitious leaders had converted the country at home into various feudal dependencies, which were at war with one another. The government, being powerless to contend with the factions, dissolved, leaving the provinces to take care of themselves. This picture of savagery discouraged San Martín, who, upon his return from his campaign, despairing of seeing the return of order and peace in the new communities, retired to France, where he died some years later.

The Province of Buenos Aires had, no doubt, an exemplary government. The soul of it was Bernardino Rivadavia, a mulatto who, as secretary of the government, completed commercial treaties with England and other countries, and obtained in London, through the Baring Bank, a loan of £1,000,000, at 6 per cent interest, which was totally covered at the fixed rate of 70 per cent. He also interested some small English capitalists in the enterprise of sending over the first herds of fine cattle.

Rivadavia also founded a bank of discount and for the issue of paper money, which began its operations with an issue of $290,000, the first Argentine currency.

But the half-civilized conditions continued in the rest of the country, though the leaders of emancipation tried to reunite the provinces under national control, naming Rivadavia as President. Here we encounter the origin of the two great political parties in the history of the Argentine Republic, one being the Unitary, which favored a strong central government, in opposition to the localism of the Federals, or State-Rights party.

Rivadavia advanced his epoch, and to him Argentina owes many progressive ideas, among others the governmental ownership of the land and the natural sources of wealth. He carried on great works of public utility, employing the funds obtained from Baring Bank to found schools, universities, a national bank, hospitals, and other benevolent institutions. However, he could not triumph over the local rivalries, and, discouraged, like San Martín, gave up the government, which dissolved immediately, having been unable to crush out anarchy, which now broke out more furiously than ever. The discount bank of the Province of Buenos Aires had been changed to a national bank, and its issue of paper money now rose to $2,700,000, yet the payment of the debt to Baring Bank had not even been commenced.

The new Empire of Brazil, heir to the Portuguese policy in South America, expected to reach the river Plata and to dominate Montevideo, the capital of the Republic of Uruguay. Buenos Aires, which had inherited at the same time the Spanish secular views, notwithstanding that it was itself menaced by anarchy, aided the Republic of Uruguay to obtain its independence from Brazil in a war which lasted three years, and whose chief purpose was to drive out the Brazilians from the Plata (1828).

The anarchical wars had reduced considerably the masculine part of the population, which in 1810 numbered half a million, the fourth part of which were quadroons descended from half-breeds, mulattoes, and negroes. A leader unbalanced and fierce, Juan Manuel de Rozas, chief of the federals, now assumed command, and pleased himself with collecting the savage negroes of the population, some 40,000, recently emancipated slaves, nearly all in the Province of Buenos Aires, and bringing about the exile of the cultivated and industrious elements, who took refuge mostly in the Republic of Uruguay and in Chile. The reckless spirit that during 25 years reigned in all the local military dictatorships had ended in destroying the mining and wine-making industries that the Spanish colonies had started in the interior.

The diplomats of Europe, acknowledging the Monroe Doctrine, hastened to recognize the self-styled Republic. In 1829 England

recognized the independence of the new country and entered into diplomatic relations with the tyrant Rozas. The final recognition of it by Spain in 1842 completed the assurance of the leaders, who, confident of their independence, had now no other idea but to destroy each other.

Of all the old provinces of the ancient Viceroyalty of Buenos Aires, the only one which prospered through these years was the new Republic of Paraguay, in reality an absolute kingdom at the mercy of the powerful will of the tyrant dictator Francia. Its independence was recognized by Europe and Brazil but not by Buenos Aires, and this made it impossible for Paraguay to enlarge its outside commerce, as its only outlet to the sea was by way of sailing 850 miles on the rivers Paraná and Plata. This obliged them to pass in front of Buenos Aires with all their export and import traffic.

Because Rozas at Buenos Aires could close the natural channels and hinder the traffic of Paraguay with Brazil and Europe, the English and French governments decided in 1845 to establish a blockade of Buenos Aires and open to free navigation the Paraná, and thus assure international communication with Paraguay. This blockade lasted two years, and in 1847 the English fleet abandoned the waters of the Plata. During these two years the English officials tried to excite the settlers of Buenos Aires to rise against the tyrant Rozas, but they were weak and timid and did not think they could free themselves without the help of the exiled patriots and their allies. Various attempts had been made to expel Rozas but without success, until, understanding that the problem was not local but national, they united with the expatriated from other provinces, and counting on the help of the dictator who ruled the province of Entre Rios (separated from Buenos Aires by the Paraná River) and with the aid of the troops sent by the Empire of Brazil, they deposed Rozas and instituted the national government with its capital in the city of Paraná, province of Entre Rios. Then, taught by experience, the people resolved to safeguard their rights and privileges for the future. On 25 May 1853, a Constitution, closely resembling that of the United States, was formed, with some modifications, particularly in regard to civil legislation which is national and not provincial, and the United Provinces of Rio de la Plata took the name of Argentine Republic (from the Latin *Argentum*, silver).

Here began a period of national reconstruction and the normalization of the provincial autonomies. The country entered into commercial treaties with various European countries and

with Brazil, and began to pay the Baring Bank of London the accumulated interest and collateral on the loan obtained by Rivadavia 25 years before. The national bank, founded by Rivadavia and converted into a mint by Rozas, became the Provincial Bank of Buenos Aires.

The ensuing years witnessed some practical advances, such as the inter-provincial telegraph, the construction of the first railroad, and communications by steamboat between the Rio de la Plata and Europe, reducing to 40 or 50 days the passage which up to this time had taken three or four months by sailing vessels.

But the incipient economic interests had not yet much political representation. Personal rivalries among the commanders of the army, and the troublesome pride of Buenos Aires, jealous at seeing the national capital in the city of Paraná, separated that province from the rest of the confederacy, and civil war began once more, hindering the steps of real progress which had been taken. After various bloody battles, in 1861, the hegemony of Buenos Aires threatened the integrity of the rest of the country and the provisional capital was moved to that city. But the aggressions of the tyrant Solano Lopez, dictator of Paraguay, a country which had been formed under the fiercest of the dictatorships which the people of the south had been subjected to, had forced Brazil to war. The invasions into the Argentine territory by Paraguayan armies, which moved toward the Republic of Uruguay with a view to assuring an outlet to the ocean, provoked the offensive and defensive alliance of Brazil with the republics of Uruguay and Argentina, which brought on a devastating war that lasted five years, and in which 70,000 combatants took part. Its outcome was the complete overthrow of Paraguay, whose male population was reduced to one-tenth.

Already the Argentine government had become suspicious of the policy of Chile, a country less democratic than its neighbors, who found themselves exhausted by civil and other wars. Chile manifested a strong inclination to obtain ports on the Atlantic side of Patagonia. Notwithstanding the complete victory over Paraguay, the Argentine government asserted the doctrine that "victory does not give rights," and offered to submit to the arbitration of President Hayes of the United States the question of the boundaries of Paraguay, thus making an honorable precedent in international policy.

The costs of the war with Paraguay were defrayed by a loan contracted with the Bank of London. The honorable arrangement which in 1854 the government had proposed to the Baring Bank

to pay the debt made in 1825 had aroused English capitalists, who not only covered the loan for the war but also organized railroad and marine transportation companies.

The continuous issue of fiat money had depreciated the currency to an extreme limit so that the rate of exchange was 27 pesos to one gold dollar. In 1867 the Provincial Bank established the rate of exchange at the fixed point of one dollar gold for 25 paper, and vice versa.

The war, notwithstanding its epidemics and miseries, did not wholly check the progress of civilization. The struggle with the foreigner united the confederate provinces against Buenos Aires, which, though politically allied to the rest of the country, socially still felt itself aloof. At the same time the influx of British capital and the entrance of some thousands of immigrants changed this feeling a little. Meanwhile citizens who were enthusiastic admirers of the Republic of the United States endeavored to make this the general opinion, and in 1868 a pacific presidential election took place in Argentina, resulting in the choice of Domingo Sarmiento, who was at that time the Argentine Minister in Washington. He was devoted to the progress of civilization in South America, through schools and industries. He established throughout the country compulsory and free public schools, and inviting normal teachers and scientists from the United States and Germany, he founded institutions of scientific and general culture and strengthened the sway of the national Lyceums, instituted by his predecessor, General Mitre, and established in all the provinces. Sarmiento obtained from the Bank of London $5,200,000 gold, which he employed in public works.

Faith in the progress of the country had grown much firmer through the fact of the peaceful presidential election. People trusted in personal and property guarantees, and the rural industries, using wire fences to inclose pastures, passed from the nomadic and route systems which the cowboy had opened up to civilization. But the adventurous element of the low class, result of the mixed races, and composed of uncultured men, asserted their rights to political equality, stirred up provincial revolutions and uprisings in the city of Buenos Aires, placing again in constant uncertainty industry and commerce, and checking immigration. Yet through it all the new modes of communication, and the work of Sarmiento little by little made stable the growth of civilization.

As a result of wars and revolutions the scourge of cholera for two years decimated the country and an epidemic of yellow fever,

brought from Brazil, in its turn for a third time destroyed the population on the banks of the Plata, whose death rate remained for years about 45 per thousand. In 1873, the population of the city of Buenos Aires was about 220,000, almost all whites; the whole population of the country was about 2,000,000, nearly a third part of them half-breeds. Stability of money was impossible, and the Provincial Bank closed its office of exchange. The wars of independence, revolutions, and uprisings during the period of anarchy and tyranny, the war with Paraguay, and the civil wars had reduced considerably the masculine part among the creoles, half-breeds, and negroes, so that the feminine element made alliances with the European immigrants.

But the foreigner, who was indifferent to the quarrels of the political leaders and to the depreciation of paper money, which had fallen to the ratio of 30 to 1, entered heartily into agriculture which had recently shown unusual results, and the political leaders became uncertain of a field for their propaganda, warlike and personal.

Withal they had to solve the problem of the capital, up to that date provisionally located in the city of Buenos Aires, which was also the capital of the province of the same name. In 1880, because of the presidential election, the national government, which was beginning to organize its small army in the conquest of the desert, reducing the nomadic tribes which existed in those regions, and which had extended the railroads to the distant provinces, and increased the schools, was violently expelled by the government of the province of Buenos Aires, which, with the help of the party preponderant in the city of Buenos Aires, headed by Ex-President Mitre, resisted the entrance of the national forces. After many bloody combats, however, the national forces triumphed and fixed forever the national capital at Buenos Aires.

The government of Buenos Aires province removed its capital in 1882, founding the city of La Plata on the banks of the river of that name, 57 kilometers from the city of Buenos Aires. The founding of this city of La Plata cost $30,000,000.

After the Paraguay war the two political parties ceased to exist. This gave rise to the founding of personalistic parties named for their leaders. After having lost the city of Buenos Aires in 1880 the party of Mitre retreated from the electoral struggle, and their chief, General Mitre, devoted himself to literature and high politics, becoming a famous figure in the nation, and popular with the masses, on account of his daily paper *La Nacion*, which united the characteristics of the English daily and

French review. The electoral withdrawal of the Metristas gave opportunity to the party of Federal origin, which was under the control of General Roca, who was then President of the Republic, to take possession of all government positions, both national and provincial.

Chile, having defeated Peru and taken from it the provinces of Tacna and Arica, now raised the question of the boundaries along the ridge of the Andes. Being short of squadrons and provisions to defend the desert coast of Patagonia and the valleys of the Andes, the Argentine government ceded a part and recognized the claim of Chile to part of Patagonia and Tierra del Fuego; and by common agreement both governments left out the surveying of the boundaries of the land, thus allaying fears of a new war.

Although in the hands of the party of Federal origin and under a Federal constitution, the national government adopted as its own the programme of centralization laid down by Rivadavia, the founder of the Unitary party, and continued somewhat the work of progress begun by Sarmiento. They secured another loan from the Baring Bank for $12,000,000, gold, at the rate of 90 per cent and at 1 per cent interest, to be used in railroad extension. Two years later, in 1882, they obtained another loan of $9,000,000, gold, at the rate of 84 per cent and 5 per cent interest, to found a national bank, and immediately Parliament authorized another loan of $20,000,000, gold, for public schools.

The conquest of the desert and the reduction of the Indian tribes was followed by great prosperity, enriching the government by the possession of millions of square miles of excellent ground for pasture. These most valuable regions were divided among the military who had made the campaign of the desert, and government politicians. The increase of immigration, which was now about 100,000 a year, in most part northern Spaniards and northern Italians, attracted by the advertisements of free lands and the advantages offered by the government, and the investments of foreign capital in railroad companies and public improvements in the cities of La Plata and Buenos Aires, inflated considerably the price of land in the hands of the military and government leaders. In less than one year it doubled in price. The national government continued to ask for loans from the Bank of London, and again obtained $20,000,000, gold, at 6 per cent interest, for the construction of the port at Buenos Aires. In 1886 another loan was made of $42,000,000, gold, at 80 per cent rate and at 5 per cent interest, to unify diverse loans for public works.

In these conditions the military, in great part made up of half-breeds and quadroons, enriched by the gain of their desert conquests, and by the prodigality with which the London bankers loaned money to the government, outshone the old, cultured, and quiet well-to-do people of Buenos Aires, and other centres. The latter were descendants of the patriots of the War of Independence, and of the exiled patricians, yet they were overshadowed by the new military plutocracy, who had no thought but ostentation, and were destitute of all idea of duty, civic and social. They simply centred in Buenos Aires to enjoy life in pseudo-Parisian style.

In 1886 the government, hindered by the difficulty of obtaining more loans in London, abolished the law of "conversion," and began again to issue millions of fiat money, thus giving a chance to stock jobbing, and producing an extreme instability of currency, which in 1889 had a relation of five pesos to one gold dollar. At that time the fiat money reached the sum of $80,200,000. The London bankers had not only been beguiled into loaning money to the national government, but had also made loans to provincial and municipal governments to the extent of $80,000,000 in gold, which was largely embezzled by the intermediaries in Europe and the retainers of the authorities of those centres.

In the Pan-American Congress held at Washington in 1889, the Argentine representatives, fearing the interpretation Blaine gave to the Monroe Doctrine, "America for the Americans," would be ratified by the Congress, declared as the Argentine sentiment, "America for Humanity," expressing the Argentine inheritance of blood and of interests through the mixtures of the Spanish, English, French, and Italian races, and its independence of the rest of the American continent outside of its own boundaries.

Argentina now had more than $500,000,000 English capital invested in the country and more than a half a million Italian citizens. Political and administrative corruption, however, seemed to know no bounds. Fiat money reached $197,000,000, making the national dollar less than 30 cents, gold, and the credit of the country was compromised in loans of more than $300,000,000, gold, covered by mortgages on its inalienable property and interests, which amounted to more than 40 per cent of its estimated wealth.

The inaction of public opinion and the lack of any party of opposition moved the young men of the universities and those in active business to form a protesting party — "The National Civic Union,"— which in a few months after its founding conspired with some of the chiefs and officials of the army and navy, and

incited mutinies and mobs which drove the President, in 1890, to resign his position. The Vice-President, Dr. Pellegrini, a man of great energy and capacity, but lacking political tact, remained in office and partly quelled the provincial revolutions. Meanwhile, the personalist leaders, reviving the traditions of the old parties, Federal and Unitary, separated the elements which formed the young party of the Civic Union.

The national government had to ask delay from the European banks, and finally the National Bank with the Provincial Bank of Buenos Aires failed. The Argentine credit was completely lost, immigration ceased as well as the coming in of foreign capital; public service became uncertain. Money was wanted to prosecute public improvements and education. The country found itself exhausted, and again threatened by Chile, which had recently come out of a cruel civil war, the only one in its history, and rapidly and cleverly militarized under the direction of German officials. Now Chile wanted the boundaries on the Andean frontier to be made at once. As the interest of English and Italians were great in Argentina the danger of war opened again an opportunity for credit to improve the national defence, and the government spent more than $100,000,000, gold, in forming a modern navy, making strategic lines and military posts, and purchasing military supplies. During this time agriculture and stock-raising prospered and in a few years doubled the exportation. But again the instability of the fiat money, which originated the stock jobbing in the Stock Exchange of Buenos Aires, was a grave cause of discredit and checked immigration. The working classes organized themselves in labor unions and formed a socialist party. This called elements of leadership from university students and young professional men, particularly doctors.

The government in 1891 founded the Bank of the Nation and offered to the public a subscription for $250,000,000, to be used as its capital. The public did not respond to any extent and the government only saved the situation by resorting again to the issue of fiat money. In 1892 the government founded the "Caja de Conversion" (Exchange office) and in 1899 modified its organization, forming a reserve fund to change the bills in circulation at the price fixed by law of 44 cents, gold, to one peso, and pledging themselves to set aside gold corresponding to this price for each new issue. See Banking and Finance.

Disquietude over the boundaries of Chile and the costs occasioned by it, did not disappear till 1902, when the differences were referred to and settled by the King of England, followed by a

treaty of partial disarmament, signed in Buenos Aires, in 1904, the only instance of the kind in the history of peace, and which reflected great honor on both peoples. With this act the Argentine nation assured forever its international policy of peace, and gave an impetus to the progress of civilization. She now felt sure of her destiny.

The hard experience during a decade of complicity between some national and local leaders and European bankers which endangered and discredited the country, and another decade of anxieties and expenses for the national defence, moved Argentine opinion to sustain the Calvo doctrine, proposed by Drago and upheld by the Argentine representative, in the Pan-American Congress at Rio Janeiro, in 1906, according to which the new nations have a right to repudiate the debts contracted with foreign banks which enter into treaties and plots with the reckless heads of government. This was opposed to the Roosevelt doctrine according to which payments of debts contracted by the agents of those in authority are to be coerced from the defrauded people.

The rare coincidence of the almost simultaneous disappearance of the men who were most prominent in politics — Ex-President General Bartolomé Mitre, Ex-President Dr. Carlos Pelligrini, President Dr. Manuel Quinta, Ex-Governor Dr. Barnardo Trigoyen — whose deaths occurred in 1906, left the party of opposition without leaders, and the old political Unitary organization changed its name, substituting for it "The National Autonomistic Party," directed by Ex-President Julio A. Roca.

In 1906 Dr. Figueroa Alcorta was elected President. Serious disturbances occurred during the first week of May 1909, in consequence of labor troubles and anarchist agitation. On 13 March 1910 Dr. Roque Sáenz Peña was the successful candidate for the presidency. Two months later Buenos Aires was thrown into great confusion by an attempt to call out a general strike. The one hundredth anniversary of the birth of the nation was celebrated 25 May. Diplomatic relations between Argentina and Bolivia, which had been interrupted as a result of boundary disputes, were resumed in January 1911, through the good offices of the United States. In November 1913 Colonel Roosevelt, Ex-President of the United States, visited the Argentine Republic. On 9 Feb. 1914 the ministry resigned, after President Sáenz Peña, who had been ill for a long time, turned over his functions to the vice-president, Dr. Victorino de la Plaza. On 25 April, four days after the United States had inaugurated hostilities at Vera Cruz, diplo-

matic representatives at Washington, D. C., of the "A. B. C." powers, Argentina, Brazil and Chile, offered to act as mediators between the American and Mexican governments (See Mexico — History.) In 1915 the first actual treaty between Argentina, Brazil, and Chile, signed at Buenos Aires 25 May, provided for five years of peace between the three nations, during which time each of said nations was pledged not to make war on either of the others until the causes of conflict should have been investigated and reported upon by an impartial commission. Independence Day was celebrated with special ceremonies — that being the centenary — on 9 July 1916.

Argentina, after more than 80 years of distracted political life hindering its development, has succeeded in the last 25 years in establishing its prominence among the young nations, and in bringing to itself immigrants from the European races. See International Claims against Latin-America, p. 66.

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# THE GOVERNMENT

By Ernesto Nelson

The form of government of Argentina is a representative republican-federal one, modeled after that of the United States of North America, and in accordance with its historical antecedents every province keeps its own peculiar autonomy, drawing up its own constitution, fixing the number of its magistrates, the organization of its municipalities, and administering its property without the intervention of the National Government.

The executive power is vested in an officer bearing the title of President of the Nation. The terms of office of the President and Vice President are six years, and they cannot be re-elected until after the passing of a presidential period. The Ministers are eight: Interior, Foreign Relations and Worship, Treasury, Justice and Public Instruction, War, Navy, Public Works, and Agriculture, Industry, and Commerce.

The legislative power is vested in two bodies or chambers, that of the Deputies and that of the Senators. The former are elected by a majority of the votes of the people, and the latter by the legislatures of the provinces, thus ensuring two senators for each federal State, and two senators for the capital elected by the people.

The Judiciary is vested in the Supreme Court of Justice, Federal Chambers of Appeal in the capital and also in the cities Córdoba, Paraná and La Plata; federal courts in the capital and throughout the provinces and territories; Chambers of Appeal in the capital for civil, commercial, criminal and correctional cases. Each province has its own judicial system with a Supreme Court and several minor courts. Penal, civil, commercial and military laws are national laws, uniform throughout the Republic and codified under national codes. The provinces can only enact such laws of procedure as do not affect the national laws.

The seat of the National Government is Buenos Aires, the federal capital of the Republic. The national territories are ruled by governors appointed by the Executive Power, with the consent of the Senate.

The governors of the provinces are elected by the people. Foreign citizens can hold real estate.

Article 14 of the Constitution provides for the absolute freedom of the people of the nation in the exercise of their religious faith.

There is no State religion though in accordance with the Constitution the State contributes to the support of the Roman Catholic religion, the expenses of which are about $1,000,000 in gold per year; but it likewise contributes aid for the support of educational or charitable institutions established by other denominations. In 1884 civil marriage was established.

The ecclesiastical government consists of an archdiocese and seven dioceses, under the patronage of the National Government which authorizes or prohibits the carrying out of papal decrees.

## EDUCATION

By Ernesto Nelson

As reformed in March, 1916, this comprises six divisions: Primary (four years), Intermediate (two years), Secondary (five years), Normal (four and seven years), and Higher education (from five to seven years). The sixth division includes Industrial.

Commercial and Education of the Abnormals and is called Special Education. Agricultural education is partly controlled by the universities and partly by the Department of Agriculture. Public education is free throughout.

### Primary Education

Primary schools are the concern of state (provincial) authorities. The exceptions are: the control of the Primary schools of the Federal city of Buenos Aires by the National Board of Education, and a system of subsidies by the federal government for the benefit of certain provinces whose finances are not equal to the needs of primary education. In 1894 there were 3,000 primary schools, public and private, which increased during the next 20 years to 7,877 schools; likewise did the teaching force of these schools grow from 7,800 to over 26,000 teachers, 80 per cent of whom are women. The pupils attending the primary schools in 1894 numbered 280,000, whereas in 1914 the attendance increased to 900,000 pupils. The expenditures incurred for the maintenance of the schools rose sixfold. Population increased less than twofold during that period.

### Secondary Education

Secondary education was originally shaped after European models, but the schools are already responding to the modern demands of democracy. From mere preparatory institutions for the university they are fast becoming schools of advanced education to an increasing number of men and women. In 1894 the students in secondary colleges numbered 3,000, which number rose to 10,000 in 1914, the expenses being increased from $400,000 to $2,500,000. There are 33 of such lyceums (16 in 1894) eight of which are in the city of Buenos Aires (only one in 1894). Secondary education is not compulsory.

### Normal Education

Normal schools are for primary teachers and for secondary teachers. There are also special institutions for teachers of modern languages and of physical training. Normal schools for primary teachers numbered 70 in 1914 (10 of which were in the city of Buenos Aires) with an enrollment of 8,970 students, about six times those enrolled 20 years before. They offer a

four-year general course followed by a three-year special course leading to the professor's diploma. Teachers graduating from normal schools are eligible for positions of $900 a year. Principals get from $1,250 to $1,500. After 25 years teachers may retire with 95 per cent of their salary, provided it has been earned during four years and also that the candidate is more than 45 years old. Normal schools for secondary teachers offer courses in different specialties besides the general courses. Graduates who secure positions as teachers in secondary schools get from $800 to $3,600. Salaries of principals vary from $2,500 to $4,000 a year. Both teachers and principals also retire with the 95 per cent of their last salary, but only after 30 years' work, the remaining conditions being equal.

Minor terms of special study are required for qualification for the professions of chemist, midwife, dental surgeon, surveyor, and architect.

The University of Córdoba is composed of the school of medicine; the school of engineering; and the school of law, in connection with the National Academy of Sciences.

In order to follow his profession in the country, the professional graduate of a foreign university is obliged to prove his ability by means of an examination before some Argentine university.

### Technical Education

Technical education also is encouraged by the National and Provincial governments. Prominent among those of the first category are the national industrial schools, similar in type to the manual training high schools in the United States, although the courses cover six years and afford specialization in engineering, architecture, chemistry and mechanics. Other technical schools of a vocational type provide training in the various trades. There are about 15 trade schools for girls also under the control of the National government giving instruction in dressmaking, embroidery, millinery, flower, lace and glove making, metal work, telegraph operating, drawing, painting and industrial arts. Several provinces also have established schools similar to these.

### Agricultural Education

Agricultural education is of a two-fold type, special and general. Special or so called regional schools look toward the education of future workers in special fields, such as the sugar

industries of Tucumán, the wine industries of Mendoza, the lumber industry of Misiones, the dairy industry of the Plata Valley, the fruit industry of San Juan, and several other regional activities. Other schools provide for the thorough scientific instruction underlying all agricultural occupations, and they are of a type similar to the agricultural colleges in the United States.

### Commercial Schools

Commercial schools for men and women offer courses in commercial practice (five years), bookkeeping (four years) leading to the degree of public accountant (three more years). A more recent addition to the scope of the commercial schools is the degree of doctor for advanced work in economics.

### Other Educational Interests

Besides national schools for abnormal children, deaf, dumb and blind, the government is establishing a number of special schools for weak children in need of fresh air as well as mountain or sea side climate. In connection with such provisions for the health of children it is interesting to mention here that every school child in the city of Buenos Aires is given a glass of milk at the noon hour. After 15 years of such practice milk drinking has become a habit among all classes of the population, thereby reducing the consumption of intoxicating liquors.

The National Academy of Fine Arts gives free instruction in drawing, painting, decorative and industrial arts.

Popular interest in education is shown by the number of organizations established either with the purpose of studying educational problems, helping the schools, or conducting educational centres. The working classes themselves, through the Socialistic Party, have done considerable good in organizing lectures, educational excursions, and other elements of self-improvement.

Education of women has made great progress in Argentina. In certain districts primary and secondary schools are co-educational. Also some of the normal schools and all the universities. Pedagogical departments are well patronized by women who also are preeminent in medical studies. Women take an active interest in social work, notably through the remarkable Philanthropic Association, which although recognized and endowed by the National government is practically under the management

of a woman's board. Women are active in education and have also done much to bring the child-saving agencies to the present state of efficiency.

The National government, as well as some of the provinces, maintains numerous scholarships to support Argentine students in England, the United States, Canada, Italy, France, and Germany. Those in the United States number about 50, and as many more are supported by their own means or enjoy private scholarships; they are principally engaged in studying engineering, agriculture, and commerce.

No fewer than 300 young Argentinos are attending courses in Europe, the great majority of them paying their own expenses.

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## AGRICULTURE IN ARGENTINA

By Marbois Wilcox

Under this title we shall endeavor to treat of Argentine agriculture as the great importance of the subject deserves, in the broadest sense of the word, with such economic, geographic, and even historic implications as are, for the sincerity and thoroughness of our study, really indispensable.

The area of land under cultivation is more than 95,000 square miles, and its chief products are as follows: Wheat, more than 105,000,000 bushels; oats, 61,000,000 bushels; maize, 190,000,000 bushels; linseed, 40,000,000 bushels; sugar, more than 280,000 tons. Analyzing the statistics for recent years we find that between 16,000,000 and 17,000,000 acres are devoted to wheat, about 16,000,000 acres to alfalfa, 10,000,000 to 11,000,000 acres to Indian

corn (maize), over 4,000,000 acres to linseed, and over 3,000,000 acres to oats, the other crops being barley, sugar cane, grapes, rice, potatoes, cotton, tobacco, etc. But the fact is to be noted that of the somewhat more than 1,000,000 square miles embraced in the Republic more than one-third (about 334,000) are arable. In other words 241,000 square miles of the arable regions remain to be brought under cultivation. It is therefore proper to regard the present output of cereals, despite its unquestionable importance, as only a promise of the vastly greater crops which will be secured when the limit of Argentina's potential productivity has been even



Grain Elevators, Bahia Blanca, Argentina

approximately attained. Moreover the agricultural system accepted and practiced in Argentina at the present time is as far as possible removed from the intensive system, its aim being simply and frankly, and perhaps with overemphasis of facility, to obtain the maximum of profit with a minimum of capital and labor. Compare it with the agricultural system of Canada. We may call the former "extensive," the latter intensive. Thus, in Canada the farms of less than 200 acres constitute 88 per cent of the total of holdings of rural property; in Argentina the holdings are relatively large and it appears that farms which best respond to the present conditions of agriculture there are those of 500 to 750 acres. The capital required for farming operations in Canada is $59.25 gold per hectare (2.47 acres) including the value of the land, buildings, and machinery; in Argentina, $27.70 gold per hectare. The amount produced in a given area by the Argentine farmer can be greatly increased whenever it becomes more profitable to cultivate intensely than simply to extend the margin of cultivation.

In addition to the arable regions we have to consider a second one-third part of the entire area of the Republic — roughly speaking 333,000 to 335,000 square miles that can be utilized for sheep or cattle and to a large extent already have been assigned to the stock-raising industry. In fact live-stock has been, from the early years of Spanish colonization, one of the two principal sources from which the wealth of the inhabitants has been derived; and the figures given in a recent census are, for the entire country: 80,000,000 sheep, 29,500,000 bovine cattle, 9,700,000 horses, 452,000 goats, 3,050,000 pigs, and 920,000 asses and mules — the estimated total value being $700,000,000 gold. The nucleus of the supply of live-stock was derived mainly from Peru and Spain in the 16th and 17th centuries.

The remaining areas are commonly assumed to be (in the agricultural sense) unproductive; and as an illustration or the most striking example of the worthless section, it has been customary in the past to mention Argentine Patagonia. But in the light of recent investigations and practical experiments we are enabled to correct that erroneous impression; and it is reasonable to expect that the whole subject of Argentine agricultural expansion will be revised when essential new facts, which would have been called heresies even a decade or so ago, are arrayed against very old but wholly unwarranted prejudice. Our task at the moment is to set forth such essential facts.

### Agricultural Patagonia

Argentine Patagonia is divided into five parts, namely, the Territories of Rio Negro, Neuquén, Chubut, Santa Cruz, and Tierra del Fuego, whose combined areas (about 775,000 square kilometers or 302,250 square miles) exceed the total area of Chile, and constitute between one-third and one-fourth of the entire area of the Republic of Argentina, or nearly one-twentieth of the continent of South America. A comparatively small portion of the Patagonian regions belongs to Chile, and forms the Chilean Territory of Magallanes. In view of the circumstance that its climate, ranging from temperate to cold (since it extends, roughly speaking, between lat. 40° S. and lat. 55° S.), favors the development of vigorous communities, we note with special interest records of Patagonia's agricultural achievements which demonstrate the fertility of the soil, accessibility of the interior districts, facilities for irrigation, etc. The question whether this distinctly habitable one-twentieth of South America possesses such elements

of substantial prosperity has entered a new phase; and it is obviously a very large question. The 18th century witnessed a race between England and Spain for the control of this region. In 1774, the Jesuit, Thomas Faulkner, having penetrated to the heart of the country, found the interior so unexpectedly desirable that he urged England to undertake its conquest. The Spanish government, when this project became known, hastened to take formal possession of the coast by establishing forts there. On 15 Dec. 1778, an expedition was sent from Montevideo, and, after a voyage of 22 days, a landing was made on the north shore of Valdez Peninsula. The bay (a portion of the Gulf of San Matias) where this landing was effected received the name of San José. Spanish settlements were established there and at Puerto Deseado — the latter in what is to-day the Territory of Santa Cruz. When Spain was on the point of losing forever her control over Argentina, England decided to strike, but, aiming first at the capital, neglected to put sufficient force into the blow — and the captured English regimental flags are still to be seen, in frames and under glass, on the pillars of S. Domingo church at Buenos Aires. A quarter of a century passed. Argentina, distressed by war and political dissensions, was shunned by nearly all Europeans, excepting soldiers of fortune. Then, after 1832, the world received from one of its greatest men extremely unfavorable impressions in regard to this portion of the Far South. When Captain Fitzroy on the Beagle was devoting his attention to Patagonian hydrography, Charles Darwin, as the naturalist accompanying the expedition, pursued his investigations on land. But inasmuch as Darwin's studies were in the main confined to the dreary repellent wastes of the littoral, he of course depicted the land in darkest colors on account of its lack of vegetation. To this condemnatory judgment was due, in part, the delay in colonizing central and southern Patagonia. Genuine colonization of Central Patagonia — the Chubut Territory — began in the year 1865. In 1862 an important emigration society had been formed in England with the object of establishing colonies in Patagonia. Two representatives had examined Chubut Valley, and subsequently applied to the Argentina minister of the Interior, Dr. Rawson, for an assignment of national government lands. In the name of the government the minister stated that he was ready to give to each family of immigrants an adequate portion of the national land. On 28 July 1865, a ship arrived from Liverpool with 153 Welshmen on board, and in September of the same year Colonel Murga, thereto commissioned by the government, came to point out to the immigrants the

land assigned to them in Chubut Valley. On 16 September the colony was formally established. The Argentina flag was hoisted and the place received the name of the minister of the interior, Rawson. From the very beginning a lack of means of subsistence occasioned great suffering. Forty-eight newcomers abandoned the community, and the government, whose energies were absorbed by the war with Paraguay, could extend no aid. Fortunately the starving Welshmen obtained a little food from the Tehuelche Indians. The second harvest was a failure because the rainfall was insufficient. When the colonists abandoned their settlement and betook themselves to the neighborhood of the port of Madryn, Dr. Rawson promised support to the poor people and requested them to remain one year longer in the colony. Thereupon irrigation canals were cut. At one stroke the situation changed. Splendid crops of wheat were produced. From the year 1867 onward the harvests were good, but communication with the outside world was very imperfect. Application was made to the national government for assistance in exporting wheat. New bands of Welsh immigrants came in 1874 and 1875. Chubut wheat was then sent to Buenos Aires and the Falkland Islands. The colonists established a species of autonomous government, electing for this purpose a council which consisted of 12 members, and which promoted the public interests and discouraged private quarrels. This council of 12 elected a president. Thus matters stood until 1876, when a commissioner was appointed to represent the national administration. In 1881 the inhabitants of Chubut Valley numbered 1,000. The law of 16 Oct. 1884 relating to the National Territory prescribed for Chubut the following boundaries: On the north, Lat. 42° S., on the east, the Atlantic Ocean, on the south, Lat. 46° S., and the Chilean frontier on the West. Under this law a governor, a federal judge and other officials were assigned to each Territory. The first governor of Chubut, L. J. Fontana, installed the territorial administration at Rawson. Governor Fontana promptly realized that he knew nothing about the 10,000 square leagues constituting his realm. Therefore, in the spring of the year 1885 he set out with 30 men to explore the Andean valleys. The entire outfit — provisions, a large number of cattle, etc.,— had been supplied by the participants themselves; and the reason why so many colonists undertook the journey was that certain friendly Indians had told them about the fruitfulness and beauty of the Cordillera valleys, and the agreeable climate prevailing there had been the subject of much praise. The interior of Chubut had, indeed, been studied at certain points by foreign

geologists and botanists but not a word had been said about the agricultural possibilities of the hinterland; and in Buenos Aires the commercial world knew probably less about the southern territories than did the people of Europe.

Fontana's expedition reached the foot of the Cordilleras after a journey of three months, and there the wanderers discovered a beautiful wide valley which their leader, in honor of the day on which the territorial divisions had been decreed, named Valle 16 de Octobre. A stock-farming colony was founded there. Fontana has characterized the newly discovered regions in the south as follows :—" There were 30 of us and we belonged to four different nationalities, yet all declared to me unanimously that they had seen no other spot on earth where nature had combined on such a liberal scale whatever is necessary for the welfare of mankind."

A word of explanation is necessary in regard to conflicting accounts of certain portions of the Patagonian Territories. The Rio Negro Valley and Limay region have been described by some writers as very fertile, while other writers have represented them to be entirely worthless for agriculture. If a visitor happened to come at the close of a rainy season he found luxuriant vegetation; whereas another visitor arriving in time of drought could scarcely obtain fodder for his horse. The facts that the wheat grown in the valley of the Rio Negro is as good as or better than the Chubut wheat, and that both are superior to the wheat grown in the warm northern provinces, deserve to be kept in mind.

### Increase of Agricultural Resources

The assertion has been made that the Rio Negro Valley in many respects is like the Nile Valley. Its total length, from the point where the Neuquén and Limay rivers unite to form the Rio Negro to the disemboguement of the latter in the Atlantic, is about 275 miles, and the average width about four miles. Great Britain's old ambition to which we have referred has in our own times manifested itself in the construction of railways and the investment of very large sums of money in the development of the country. On 1 June 1899 the railway connecting Bahía Blanca and Buenos Aires with Neuquén was opened, and this gave ready access to regions which formerly were reached by long stage-coach journeys. The English spirit of daring which undertook the extension of the great system of the Southern Railroad merits recognition. The region to be crossed was in part so poor that

the prospect of good financial returns was frankly admitted to be remote, and no colonization could be expected to follow except in the Rio Negro Valley. But English capitalists looked far beyond the present and saw in the line connecting Bahía Blanca with Neuquén only the first half of the great Trans-Andean route, which should supply, for the products of South Argentina and South Chile, an outlet at that point (Bahía Blanca) which has, as its most valuable asset, a natural harbor, much deeper and better for large vessels than the harbor of any other place in the extreme southeast. As evidence of the interest that the Argentine government takes in the southern Territories, we may mention the construction of the Patagonian Railroad, which was begun in 1908. The discovery of petroleum about 1907 near Comodoro Rivadavia is another factor in the growing prosperity of southern or Patagonian Argentina. It is to be noted also that the cultivation of cereals, with all its promise, is not the most important source of wealth. Stock-farming, especially sheep-farming, dominates here; in fact this region sustains a relation to the provinces on the Rio de la Plata analogous to that which the southwest and west in the United States held to the middle and eastern States just after the Mexican War. The progress made in recent years proves that these territories can at least produce all that is requisite for the continuance of prosperity. The Territory of Neuquén made gains in the matter of population (white and Indian in the proportion of 3 to 1) to such an extent that it had recently about 30,000 white inhabitants, most of whom were Chileans, and about 10,000 Indians; and it was recorded that these 40,000 individuals possessed or were in the employ of those who possessed 195,000 cattle, 105,000 horses, 676,000 sheep, 170,000 goats, and 7,000 mules. Considering only one item, we note that there were 16.9 sheep for each man, woman and child. Some progress has been made in the plans for rendering navigable the Santa Cruz River. In 1909 a steamer carrying many passengers and a cargo of 80 tons succeeded in going up against the rapid current of that stream as far as the Rincon Chico region, which was formerly regarded as inaccessible. The feasibility of plans for river improvement which shall enable larger vessels to come and go between the wide interior zone and the outside world has to be conceded. It is of highest importance to consider the agricultural possibilities of these very extensive regions, situated in latitudes that favor their development by the more vigorous classes of immigrants. The observation has quite recently been made that Argentina's expansion into the temperate southern regions of the South American

continent is in its own way not less truly interesting than are the similar westward movements in the United States and Canada, the eastward one in Russia, or the northward one of South Africa. This is Argentina's wide and deep frontier, the borderland in which pioneer conditions give place to rapidly growing settlements, and scientific methods convert supposedly useless areas into sources of economic wealth.

### Argentina's Chief Agricultural Products

At this point it is desirable to form correct and very distinct impressions in respect to each of the items that stand at the head of the list of agricultural products. We begin with the wheat. It will be seen that wheat, representing 57 per cent of all cereals produced in the Republic, covers approximately 17,000,000 acres of land; but if labor were available no less than 80,000,000 acres could at once be brought under the plow for its cultivation. There is a decided tendency to increase the area of wheat-sown lands toward the south, where the climatic conditions are even more favorable — a tendency attributable to the new shipping facilities at Bahía Blanca.

With the steady encroachments of tillage upon the pasture the need for opening up fresh areas is making itself felt. The vast available tracts of unoccupied lands could, of course, be utilized for stock-raising, but the indigenous grasses are too coarse and unpalatable for forage purposes. These coarse grasses will have to be replaced by the fine short grasses growing in the lowlands, and gradually superseded by alfalfa, rye, barley, and oats. These changes cannot be effected without a considerable outlay of capital, which may in turn enhance the already high prices of cattle.

The fertile region lying north of the province of Buenos Aires, close to the banks of the Paraná — at one time the realm of herds and flocks — is to-day the principal centre of maize cultivation. Levee work is in progress on one of the islands in the Paraná River near Rosario with a view to preventing inundation at the period of floods. Should the venture prove successful considerable land will be reclaimed on this and on other islands where the soil is very fertile. It is estimated that these reclaimed lands are worth $100 per acre.

*The Argentine Year Book* for 1916 contains the statement that improvement in the grade of cattle has been brought about by the importation of pedigree animals valued at $8,000,000 in about 13 years. The essentially cattle-breeding zones are now to be found

in the provinces of Entre Ríos and Corrientes. Here the climate, the pastures, and the water-courses are ideal features that have insured the lasting prosperity of this pastoral zone, in which the old meat-packing industry still survives the advent of the large modern factories. The pastoral industry is, as we have said, extending into Patagonia, which is already being covered from the cordillera to the Atlantic, with flocks that promise to be the best in the Republic. The Argentine Republic annually produces in the neighborhood of 300,000,000 pounds of wool, 75 per cent of which comes from white-faced, long-wool sheep, Lincolns and Leicesters, and is known in the world markets as Argentine crossbred. When sorted, this wool grades largely into coarse and medium crossbred, corresponding to domestic commons and domestic one-fourth bloods in the United States. The fine crossbred of Argentina is known in the United States as domestic three-eighths blood. Merino fleeces form 20 per cent of the yearly total, producing wool that is graded as domestic fine in the United States. The remaining 5 per cent is wool of black-faced and domestic sheep. The average weight of the fleece is 5.3 pounds. Previous to the war France and Germany were the principal buyers of the wool crop, but the United States has now become the principal purchaser, taking 152,330 bales (925 lbs.) of the 298,939 bales exported in the year ending 30 Sept. 1916. This industry in Santa Cruz is represented by 5,000,000 sheep, which yield 12,000 metric tons (2,204.6 lbs.) of wool, all of which is exported. Within the last 30 years the area devoted to linseed has increased twenty-fold. Argentina is to-day the largest linseed producer in the world. Although the plant can be grown in nearly any part of the Republic, its cultivation is confined mainly to the Territory of Pampa Central and to the provinces of Buenos Aires, Santa Fé, Entre Ríos and Córdoba.

The richest alfalfa fields are to be found on the immense pampa plains. The cultivation of alfalfa has assumed vast proportions, as will be seen from the following figures: 1872, 264,500 acres; 1888, 585,000 acres; 1895, 1,780,000 acres; 1912, 13,501,500 acres; 1914, 16,725,250 acres. This forage plant, which is displacing the native grasses, grows so rapidly when favored by the weather that three or four crops are easily obtained. Its yield is six to eight tons per acre. Formerly all the alfalfa grown was consumed in the country, but it is now being exported to Brazil.

Large tracts of land in the northwestern section of the country are well adapted to cotton, but the crop has made little progress. Most of the cotton grown comes from the Territory

of Chaco. It is also grown in Córdoba, Santa Fé, and Corrientes. The annual production is about 1,230,000 pounds, of which about 60 per cent is exported. About 71,536 acres were planted under beans in 1914, but although a primarily agricultural country, Argentina is dependent to a large extent on imports for its supply of beans, peas, and chick-peas. Rice is produced to the extent of 15,000,000 pounds annually, which is only 14 per cent of the rice consumed in the Republic.

When discussing the general outlook in a year (1914) of depression in the land market, the *South American Year Book* for 1915 published the following:

"As a general rule, land values in the Argentine are below those current in other countries less favorably situated as regards fertility, climatic conditions, and accessibility to markets, and, that being so, it would be only a matter of time when prices would revert to their old level. Every year the land is becoming more and more closely settled and its productive power increased, and the country is in the happy position of having a practically unlimited market for its staple commodities."

If we desire to found our opinions in regard to the permanence of the agricultural prosperity of a large country even in part upon the statistics of production (a procedure always attended by risk of error), we must at least examine the figures that relate to long periods of time and to years in which fairly normal conditions prevailed, rather than to a single year, or to two or three recent years alone, in which the conditions may have been exceptional. With this rule in mind, we may now revert to the Canadian-Argentine comparison, and may mention the suggestive and somewhat propagandist statistics prepared by Señor Lahitte, chief of the bureau of Agricultural Statistics and Rural Economy for the Ministry of Agriculture of the Argentine Republic, which show that the increase in land farmed in Canada between 1871 and 1891 was 75 per cent; the increase in the area devoted exclusively to the cultivation of cereals in Argentina between 1895 and 1909 was 284 per cent. Such figures arrest attention, especially because the inhabitants of the two countries compared are about equal in number. The increase in the number of hectares (one hectare = 2.47 acres) of cultivated land in Argentina since the first year of independence is shown as follows:— From 1810 to 1888, only 2,300,000 hectares; from 1888 to 1910, nearly 17,000,000 hectares. Exported products of stock farming alone were valued at only $3,300,000 in 1822 and at $71,075,955 in 1888, but in 1915 their value was $218,780,485. From statistics prepared in the year

1914 (Department of Agriculture, Argentine Republic; Ricardo Pillardo, Director General, Commerce and Industry) we extract the returns of the four principal products of the arable regions, showing that Argentina exported as follows:

| | In 1904 | | In 1913 | |
|---|---|---|---|---|
| Wheat | $66,947,891 | gold | $102,631,143 | gold |
| Maize | 44,391,196 | gold | 112,292,384 | gold |
| Linseed | 28,359,923 | gold | 49,916,201 | gold |
| Oats | 541,973 | gold | 20,447,278 | gold |

Summarized, the value of exports of these four products increased during that decade from $140,240,983 gold in 1904 to $285,281,016 gold in 1913. In 1916 there were 16,088,963 acres under wheat, 3,207,411 acres under linseed and 2,525,402 acres under oats. The official estimate, published 17 Dec. 1916 places the wheat yield for 1916 at 77,393,258 bushels, linseed 5,280,071 bushels, and oats at 33,610,157 bushels. Exports of linseed from 1 Jan. to 7 Dec. 1916 amounted to 619,210 tons, of which the United States took 209,337 tons.

Another comparison was suggested to the writer in the course of studies he made in the province of Buenos Aires and in the Paraguay-Paraná-La Plata regions between Asunción and the city of Buenos Aires, namely, the comparison with the pastoral industry of Australia, that country which rivals Argentina in flocks and herds, as clearly appears from the fact that Australia at the close of 1904 possessed 65,822,918 sheep, 7,868,520 cattle, 1,595,256 horses, etc.; and, thanks to the characteristic Australian rapidity of increase, at the end of 1911 the number of sheep in the commonwealth was 93,003,521; of cattle 11,828,954; and of horses 2,279,027. In regard to this matter the writer was glad to avail himself of the testimony of those who have engaged in this industry on a large scale in both countries; and there seems to be no doubt that, tested by such practical experience, the conditions in southern and central Argentina are found to be unsurpassed.

Unquestionably the main support, and a very substantial one, of Argentina's leadership in varied or mixed agriculture is her possession of good, fertile soils, in flat or nearly level areas of vast extent, grass-grown and not covered with forests that have to be cleared away, easy of access, lying open and ready for the plough in regions so temperate, as a rule, that agricultural work can proceed almost without interruption throughout the entire year and cattle can be kept always in the open and at pasture. Invasions of locusts occur and in the past have proved to be exceedingly destructive; but preventive measures can in the long run so reduce the injury from this source that it will become a negligible quantity.

Irrigation is required in many sections, though it is true that in the rich alluvial central basin of the valley of the Rio de la Plata the annual rainfall averages 30 inches; but it is demonstrable that irrigation constitutes a better and much safer reliance for the farmer than mere rainfall in every region not mountainous and not occupying an exceptional position with respect to permanent air and water currents. From Rio Negro to Misiones, in the subtropical northeast, and to Jujuy and Catamarca, in the Andean Northwest, soils of excellent quality and great or sufficient depth have been known, or cultivated successfully without knowledge, for many years; and, as we have seen, we are at liberty to entertain a favorable opinion in regard to soils in the Argentine Patagonian Territories.

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# COMMERCE IN ARGENTINA

By MARRION WILCOX

In the year 1915 Argentina's imports amounted to $218,951,000 and exports to $539,000,000, while in 1916 the value of imports was $211,310,688 and of exports $453,841,507. In 1914 the total foreign trade, exclusive of coin and bullion, was $602,439,880 (U. S. gold), that being the sum of imports to the value of $263,663,363 and exports, $338,776,517. More nearly normal was the

year 1913, the last wholly normal year before the European War, in which, according to the official report of the statistical office, the total foreign trade of the Republic was $877,711,376 (U. S. gold, equivalent to 904,857,089 pesos), that being the sum of imports valued at $408,711,966 (421,352,542 pesos) and exports $468,999,410 (483,504,547 pesos). In 1913 the imports from Great Britain were valued at $126,959,989; from Germany, $69,172,279; from the United States, $60,171,867; from France, $36,933,537. To Great Britain in the same year the exports were, in value, $116,756,777; to Germany, $56,178,368; to France, $36,586,981; to the United States, $22,207,965. The chief imports are: Food products, textiles and allied products, manufactured articles of iron and steel, railway supplies, agricultural implements, electric apparatus, glass and chinaware, chemicals, building materials, manufactured articles of hides and skins, oils and beverages. The chief exports are products of agricultural and pastoral industry, of the forests and of the mines. During the decade 1904-1913, commercial progress on the part of Argentina, Uruguay, Chile and Brazil has been especially noteworthy; and we learn by consultation of the official data that the percentages of increase are as follows: Argentina, slightly more than 108 per cent increase; Uruguay, 104 per cent increase; Chile, slightly more than 94 per cent increase; Brazil, 54 per cent increase. Argentine exports (with values in gold dollars) in a single year preceding the outbreak of the war in Europe, are listed as follows: Live-stock, $8,770,045; meat, hides, wool, etc., $136,336,218; manufactured animal products, $18,124,419; by-products, $2,569,451; agricultural products (in the restricted sense, products of tillage or of the field and garden), including raw material, manufactured and by-products, $301,267,094; woodland products, $10,617,985; products of the chase, $1,816,911; mineral products, $194,690; other products, $3,807,734.

Of the cereals, Argentina exported 592,797 tons of oats in 1915, 74,899 tons of barley, 4,921 tons of rye, 4,330,594 tons of corn, 2,511,514 tons of wheat, and 116,049 tons of corn meal. The exports of frozen beef reached a record figure in 1916, while the exports of mutton were less than in any year in the last five-year period. The shipments of chilled and frozen beef in 1916 were 47 per cent more than in the last normal year, 1913.

Argentine imports, value in gold dollars, during the same year were: Live-stock, $1,419,290; animal foods, $6,572,463; vegetable foods and fruits, $2,583,251; spices and condiments, $8,098,967; vegetables and cereals, $6,727,848; substances for infusions,

etc., $9,517,360; flour, macaroni, bread, etc., $1,434,066; tobacco and manufactures of, $7,038,055; wines, $9,866,310; spirits and liquors, $3,022,088; other drinks, $1,153,760; textiles, raw and manufactured, $89,560,214 (this includes silk, $7,080,063; wool, $16,751,832; cotton, $41,407,338, and sundries, $24,320,981); vegetable and mineral oils, $23,778,916; chemical, medicinal and pharmaceutical substances and products, $15,193,658; paints and dyes, $2,535,437; timber in bulk, $4,252,600; timber worked, $6,576,339; paper and pasteboard, $6,011,345; sundry paper manufactures, $3,890,640; leather and manufactures of, $4,610,560; iron (raw material), $24,149,251; iron and steel manufactures, $25,891,054; other metals unwrought or manufactured, $14,257,919; agricultural machinery, sacking, seeds, etc., $9,124,632; railway material, vehicles of all classes, etc., $37,223,336; stone, clay, glass, $36,577,913 (including raw material, $31,640,937, and manufactured, $4,936,994); building material, $35,775,580; electrical supplies, $10,110,088; sundry articles and manufactures, $14,399,584. The foreign trade of Argentina in 1916 amounted to 760,755,161 gold pesos ($733,748,324), of which imports represented 217,409,322 pesos ($202,940,400) and exports 543,345,839 pesos ($524,057,350). This gives the country an apparent favorable balance of trade of 325,936,517 pesos ($314,365,752).

### Commerce with the United States

In 1915 the exports from the United States to Argentina were valued at $53,912,544. The record of Argentina's commerce with the United States during 20 years (1895 to 1914 inclusive) shows a very marked preponderance of imports over exports, except in the first and last of those years. Thus, in 1895 Argentina imported from the United States goods valued at $6,419,519, and exported to the United States goods valued at $8,589,278; and in 1914 the figures were $35,585,913 for imports and $41,680,985 for exports. But in the years that intervened the balance of trade in favor of the United States was conspicuously large. The importance of the Argentine market will be most readily appreciated when we ascertain, from a study of the records for the year 1913, that the value of merchandise exported from the United States to Argentina was nearly (within $7,430) as great as the value of merchandise exported from the United States to Brazil, Uruguay, Paraguay and Ecuador combined; and that it was $12,543,939 greater than the sum of exports from the United States to Chile, Colombia, Peru, Venezuela, British Guiana, Bolivia, Dutch Guiana, French Guiana and the Falkland Islands. In brief, Argentina

received 36.2 per cent of the total exports from the United States to South America. The principal articles thus supplied by the United States to Argentina were: iron and steel, raw material and manufactures of 33.4 per cent of total supplied by the United States to South America; wood and manufactures, 62 per cent of total; oils — animal, mineral and vegetable, 39.8 per cent of total; agricultural implements, 82 per cent of total; cars, carriages, other vehicles and parts of, 35.8 per cent of total; leather and manufactures of, 42.5 per cent of total; fibres, vegetables, and manufactures of, 74 per cent of total; engines, locomotives and railway material, 21.1 per cent of total; aeroplanes, automobiles, bicycles, motor and other cycles, 38.5 per cent of total; chemicals, drugs, dyes and medicines, 36 per cent of total; naval stores, 36.4 per cent of total; paper and manufactures of, 44.6 per cent of total; other goods of minor importance, 14.9 per cent of total. According to the Argentine commercial statistics of 1913 goods to the value of $22,135,215 from the United States were received duty free. It is necessary, however, to emphasize in this connection the fact that among the seven nations that lead in exports to Argentina, the United States took only a third position, surpassed by Great Britain and Germany and followed by France, Italy, Belgium and Spain, until there came the enormous increase (see LATIN AMERICA — *Commerce with the United States*) that characterized the years 1913–1917, inclusive.

In 1916 the United States imported from Argentina articles valued at $100,000,000, approximately, and the value of exports from the United States to Argentina in 1916 was about $65,000,000. Consult *Americas, The* (New York, published monthly, 1914–17); *Argentine International Trade* (Panama-Pacific Int. Exp., 1915, Buenos Aires, Dept. of Agriculture, 1914).

## MINING AND MANUFACTURING INDUSTRIES

By MARRION WILCOX

Although it is true that gold, silver, and copper have been mined in a small way from early times, the mining industry in Argentina has not been developed to any great extent. It is often said that the main reason is the total lack of manual labor; that the mineral outcrops are found in the Andean region where labor is scarce; that the mineral zone has an area of 48,000 square miles and is inhabited by only 20,000 people, living mostly in or near

the town of San Rafael; and that a large area is altogether unpopulated. The means of communication (as stated in consular reports, etc.,) are insufficient, and on those lines that do exist a prohibitive freight is exacted. Writers mention districts " reported to contain " copper, petroleum, silver, iron, borax, sulphur, gold and tin. But it is quite safe to say that districts which are with certainty known to contain such things in paying quantities do not remain unpopulated or wholly unprovided with manual labor. Means of communication are provided readily enough in any part of the Republic that particularly requires and can make uncommonly good use of them; in fact, the capitalists interested in Argentine railway development are especially alert. The conclusion is that mines which are referred to in such terms are not of sufficient value to attract capital and labor for their development. But in Córdoba Province (which has a large population and railways) copper, silver, gold, marble and lime are found. Jujuy has mines of gold, silver, copper, mercury, borax, salt and asphalt. Other mining districts are those of the Province of Salta, which have kaolin, beside the minerals found in Jujuy. Similarly the provinces of Catamarca, Rioja, and San Juan have mineral products. Mining of marble and wolfram is the principal industry of San Luis; Chubut and Mendoza produce coal and petroleum. In 1915 there were 15 petroleum wells; petroleum is exploited by the government and eight private companies; gold is found in Tierra del Fuego, Santa Cruz and Chubut. (See Commerce in Argentina, p. 208.)

Nearly all the important branches of human industry are represented in the period of development that began after the year 1875. Manufacturing establishments at the present time produce standard varieties of food, clothing, building material, furniture, etc., to a limited extent; but the Republic, agriculturally so powerful, is both willing and able to continue to be a purchaser of such manufactured articles as can be produced more correctly and at less cost in the United States and in Europe. Naturally the preparation of products of agricultural and pastoral industries for domestic and foreign markets increases rapidly, favored by wholly exceptional conditions. Flour and sugar mills are in vigorous and profitable operation, and the dairies have increased remarkably. There are 525 creameries, 16 butter factories, 129 cheese factories, etc., a total of 1,259 establishments connected with dairies. During the last reported year over 35,000,000 pounds of cream were produced, 20,000,000 pounds of butter, and 12,000,000 of cheese. The estimated value of these products was

about $8,000,000. The production of sugar and wine tends to increase, the annual output now exceeding 230,000 tons of the former and 500,000,000 quarts of the latter. Tucumán has 72 per cent of the registered sugar mills of the Republic. Mendoza is the centre of the wine district. Important also are the tanneries (about 200 in number), the manufactories of cigars and cigarettes, of furniture, etc. But it is a mistake to speak of Argentine manufactures and mining as though they ranked with Argentine agriculture. They do not; and their attainment of such rank in the near future is highly improbable. According to the last industrial census, there were 31,988 factories in Argentina, employing a total of 329,490 persons. The total capital was $727,591,135, and the output was valued at $1,227,549,196.

According to an industrial census taken in 1914, Buenos Aires at that time had 437 shoe manufactories, which gave employment to 9,970 workmen and consumed raw material valued at $8,460,418, of which $5,854,172 worth was domestic and $2,606,246 imported. The combined annual sales of these factories amounted to $16,448,514. It is estimated that the industry in Buenos Aires represents approximately 75 per cent of the total for the country.

## BANKING AND FINANCE IN ARGENTINA

By Marrion Wilcox

The first important operation of credit made by Argentina was a loan negotiated with Messrs. Baring Bros. & Co., of London, in the year 1823, bearing interest at the rate of 6 per cent and 2½ per cent amortization, issued at 90 per cent. Shortly after this operation, internal political troubles caused the suspension of interest; and not until many years after, during the administration of President Mitre, did the Republic resume the service on its debt. Eventually the stockholders of the bonds received their full capital and interest in new bonds. During the years 1883 to 1885 many of the Argentine provinces issued loans in order to assist in establishing national banks under a special national law. A number of these provinces negotiated their loans in Europe, principally with French bankers. Unfortunately, owing to the crisis in 1890, the provinces suspended service of interest on these loans, the country suffering at the same time a great crisis; and although the national government, during the presidency of Dr. Pellegrini, who is remembered as an able statesman, endeavored

to continue the service in cash, it could not do so. At that time Dr. Victorino de la Plaza (subsequently President of the Republic) transmitted to Buenos Aires sound financial views prevailing in London, and by his counsel the funding loan was issued to pay service in bonds instead of cash for five years. Before the expiration of that time the country renewed the normal service in cash of its entire debt. Soon afterward the National government decided, in the interest of the credit of the country, to make arrangements to assume the loans created by the provinces, giving national bonds in exchange for the provincial bonds; and thus the loans issued by the different provinces, as we have mentioned above, were withdrawn. The same thing was done with the railway guaranties, under national laws, given for the construction and equipment of lines. In consequence of the financial crisis of 1890, these guaranties were not punctually paid, and it was decided to treat this question in a radical way by computing the value of each guaranty and giving to the railway 4 per cent national bonds. Fifty million dollars assigned to this purpose are known as national railway bonds. The credit of the Argentine Republic, thus completely re-established, has been maintained during a long period without an interruption, notwithstanding the difficult moments experienced in the years 1914–1916 over all the world in consequence of the European War. It is but just and right to mention in this connection the able manner in which the President, Dr. de la Plaza, controlled the finances of the country.

### Aid Extended by British and American Bankers

Nearly all the loans made by the Argentine Republic were issued under the auspices of Messrs. Baring Bros. & Co., who have been the friends and bankers of the country from the beginning, and have won the respect and the sympathy of all the Argentine people. Many of the principal loans of the Republic were issued solely for the construction of railways, water and drainage, port-works, and other improvements, all of which belong to the National government and earn enough to pay the service.

American bankers have had until quite recently little direct negotiation with Argentina. Messrs. J. S. Morgan & Co., of London, issued a loan jointly with Messrs. Baring Bros. & Co., in 1886–87; again, but on this occasion unaided, issued the funding loan of 1890; and also organized and retained a large interest in one of the railway companies, the Argentine Great Western Railway, now known as the Pacific Railways. The only direct loan

contracted with American bankers was one for $10,000,000 made by the Province of Buenos Aires in 1882 with Messrs. Morton, Bliss & Co., who took the whole amount. This loan, according to the statement in Don Pedro Agote's book on finance, was the first Argentine loan issued at par, and was brought out in the London market. The same firm, afterwards the Morton Trust Co., now the Guaranty Trust Co., of New York, has maintained intelligent interest in and continued its friendly relations and financial connections with Argentina. Compare the memorandum on the finances of Argentina submitted by Dr. Samuel Hale Pearson, in *Proceedings of the First Pan American Financial Conference* (Washington 1915).

Since the loan of 1882, the first financial operation of marked and conspicuous importance negotiated with the banks of the United States was an advance for a short period of $15,000,000 made in 1914 by the National City Bank of New York and its associates. Its sequel was the new issue made in 1915 by the same bank and its associates for a further amount of $25,000,000, the object of the second issue being the retirement of the first advance of $15,000,000; and it must be understood that the issue by the National City Bank and its associates was part of a loan of $50,000,000 of which Messrs. Baring Bros. & Co., of London, issued the other half in London. With this loan for five years, a number of small advances have been retired.

La Caja de Conversión was created by national law in the year 1896. Its duties have relation to the exchange of used notes for new; the receipts of gold and issuance of paper money for its legal value (44¢, gold, per dollar), or, vice versa, the conversion of paper into gold at the same rate; the exclusive control of the printing and issuing of the currency of the country, etc. When the Caja de Conversión was created the circulation of currency in the Republic was about $300,000,000, but to-day it is about $600,000,000; the gold value is about $425,000,000, and against this there is in the vault nearly $300,000,000, or about 70 per cent of the notes issued. (Report of Financial Conference at Washington — see *Bibliography*).

### Development of Argentine Banking

And now a few words in regard to the Argentine banking system. During the early years of the independence of the country a number of banks were established, although the old Bank of the Province of Buenos Aires, founded in the year 1802, continued

to lead them all. This was a bank of issue, having fiscal privileges, and became a very powerful institution. It was, indeed, the pioneer and founder of the wealth of the country, its useful practice being to loan its money at low interest, with a 5 per cent amortization each three months, to the farmers and owners of land, enabling them to improve and develop the ranches. By such means did the principal land owners of Argentina make their fortunes. This bank had close relations with Messrs. Baring Bros. & Co., and became very powerful, having large credits in London and controlling the exchange market for many years; nevertheless the financial and political crisis of 1890 caused its suspension, and years passed before it was reorganized with a capital of $30,000,000. To-day it is half-owned by the Province of Buenos Aires and half by private shareholders. In the year 1873 a group of wealthy citizens organized a national bank, the government contributing half of the capital, and for many years this was a powerful institution, helping the development of Argentine industries, such as the sugar in Tucumán, the wine industry in the provinces of Mendoza and San Juan, and agriculture in the province of Santa Fé. This institution also experienced financial difficulties in the crisis of the year 1890. During Dr. Pellegrini's administration, in the year 1891, the Banco de la Nacion Argentina was created, with a capital of $50,000,000 currency (this bank taking over the liquidation of the Banco Nacional). It is an entirely official bank, and one of the articles of its "law of creation" contains the provision that all the net profits are to be applied to the increase of its capital. To-day that capital has reached the sum of $128,000,000 paper, equivalent to over $60,000,000, currency of the United States, and the bank has besides a reserve fund of $14,500,000 in gold. The management does not sustain such relations of dependence upon the national government as the circumstances that the directors are named by the President of the Republic, and their nominations require confirmation by the national Senate, would seem to indicate. It has over 150 branches in Argentina and is constantly increasing the number, following the growth of the nation. It has no agencies abroad, although its financial relations with the principal banks and bankers of the world are being increased every year, and it now has very friendly relations with some of the principal banks of the United States. Its deposits have reached over $300,000,000 gold, and during the universal financial difficulties of 1915 it helped the commerce and industry of the Republic, which would otherwise have suffered more severely from the restriction of credits caused by the war.

Beside the Bank of the Nation and the banks of the Province of Buenos Aires to which we have referred, there are several private banks, formed solely with Argentine capital, which are very prosperous institutions and have been created as the requirements of the country demanded, such as the Banco Español and Banco de Italia del Rio de la Plata, whose combined capital is over $80,000,000 (gold). There are also several foreign banks which have aided materially in the development of the trade of the country. One of the first of these was the Bank of Maua (now liquidated), established in Buenos Aires and Montevideo about 1855. The very important London and River Plate Bank was founded in the year 1862. Since that date the following have been established: The London and Brazilian Bank, The British Bank, Anglo-South American Bank, two German and several other banks, including Italian, Spanish and Dutch, with a total capital of about $300,000,000. The most recently established is the agency of the National City Bank of New York.

The National Mortgage Bank is strictly a governmental institution managed by a board of directors appointed by the President of the Republic and confirmed by the Senate. This bank issues national cédulas (real estate mortgage bonds). The transaction must not in amount exceed 50 per cent of the value of the lands. Loans are limited to $250,000 to any one person. These cédulas bear either 5 or 6 per cent interest, and, because this bank is a national institution, have the guaranty of the Argentine Republic. Some of the first issues were of 7 per cent, but all have 1 per cent amortization. They were principally held in Belgium, having been one of the favorite investments of the Belgian public. The total amount of cédulas issued is in the neighborhood of $200,000,000.

Argentine finances suffered from a crisis that began in 1913 and went on with increasing stress until the end of 1914 and the early months of 1915, when conditions began to improve. The European War was, of course, a tremendous shock, which further unsettled the financial structure of the country, but which offered some compensating advantages in the form of increased demand and higher prices for the food products which Argentina was so abundantly able to supply. The situation in 1915 improved rapidly, and in 1916 decidedly favorable tendencies prevailed.

The national finances, collection of customs, stamp taxes, disbursements, and the service of the public debt are entrusted to the Department of Finance; and the conversion office (Caja de Conversión) is charged with the maintenance, as we have said above,

of the proper relation between gold and paper money, besides having in its care the national archives, the bureau of statistics, the national chemical office (established to enforce the national pure food law), the custom-houses, ports, and all banks.

The basis of the monetary system of Argentina is the gold standard. The unit is a gold peso, divided into 100 centavos, weighing 1.6129 grammes of gold .900 fine, or, say, 1.4516 grammes fine gold. Its par value, expressed in terms of United States currency, is $0.96475. The parity of $1.00 United States currency in terms of Argentine gold pesos is $1.0365. The actual currency of Argentina is government notes, to which a value of 44 per cent of the gold peso has been assigned by the government. This parity of 44 per cent is maintained through the medium of a conversion fund which exchanges gold for paper, and vice versa, on the basis of $44 gold for $100 paper, or $227.27 paper for $100 gold. Therefore, since the value of the paper peso is fixed by governmental decree and is maintained through the conversion fund, the paper peso represents 0.6387 grammes of fine gold, and its parity expressed in terms of United States currency is $0.4245. The parity of $1 United States currency in terms of Argentine paper pesos is $2.35576 *curso legal* (paper currency). Bills of exchange on foreign countries are quoted in both paper and gold, but usually they are quoted in gold. When Buenos Aires quotes New York exchange on the basis of paper currency, the quotation represents the equivalent in United States currency of $1 paper peso. Thus, 42.50 means that $0.4250 United States currency is the equivalent of $1 peso, paper. When Buenos Aires quotes New York exchange on the basis of the gold peso, the quotation is expressed in gold pesos; thus, "New York sight $1.0375" means that $1.0375 Argentine gold pesos equal $1 United States currency. Compare *Latin American Monetary Systems and Modern Foreign Exchange* (see *Bibliography*).

The trade balance in favor of Argentina in 1915 was noteworthy: 331,000,000 Argentine gold pesos. Failures in the Republic during the recent period of financial crisis are summarized as follows: Year 1912, assets $95,000,000 and liabilities $82,000,000; Year 1913, assets $200,000,000 and liabilities $173,000,000; Year 1914, assets $603,800,000 and liabilities $422,800,000; Year 1915, assets $233,500,000 and liabilities $178,000,000. These figures, supplied to us by the courtesy of the National City Bank of New York, clearly demonstrate both the stress and the recovery mentioned above. The budgets at hand give us: Total estimated ordinary revenue for the year 1913, $342,292,894.54 *curso legal*;

and for the year 1914, $361,773,132. The new budget, signed 22 Feb. 1917, appropriates the same amount as in 1916, namely, 381,000,000 paper pesos ($161,772,600). The latter proved to be excessive. The income for custom houses and port services during 1916 amounted to $118,587,979, against $108,929,011 for 1915, and $133,352,488 for 1914. The total debt of the Republic, 31 Dec. 1911 was $526,540,088 gold; at the end of 1912 it was $532,398,699 gold; on 31 Dec. 1913 it amounted to $544,820,000 gold; and on 31 Dec. 1914 it was $545,023,470 gold. We must add to the total for 1913 about $100,000,000 gold in order to approximate the amount of the public debt in 1915 and 1916.

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## TRANSPORTATION AND COMMUNICATION

BY MARRION WILCOX

### Shipping

We shall first consider the shipping at the ports of the river system (La Plata, Paraná, etc.); and the magnitude of British trading interests in Argentina is one of the facts that will claim our attention immediately. The preponderating share of the United Kingdom in the sea-borne commerce of the Paraná-La Plata river system, as the *South American Year Book* suggests, may be summed up in a single sentence: the number and tonnage of British shipping in Argentine waters exceeds that of all the other nations put together. So important is the sea-carrying trade of the British flag, and so keen has become the competition of foreign shipping, that even so slight a fall in the relative position of British shipping as ½ per cent before the European War began was commented upon by British writers as a not altogether

propitious sign. Taking the shipping of all the ports of the river Plata as a whole, the tonnage of the vessels owned by British subjects represented in 1912 no less than 3,557,700 tons, or 60½ per cent of the total shipping, but compared with 1911 there was a falling-off of 97,000 tons to be recorded. In the year last mentioned the British tonnage attained 3,654,700 tons, or 61 per cent of the tonnage of all nations. Germany took the second place with 661,400 tons, followed by Italy with 426,500 tons, and France with 400,000 tons. Germany and France were credited with an increase



Docks and Elevators at Buenos Aires, Argentina
(Courtesy of the Pan American Union)

of 16,300 and 46,990 tons respectively; the Italian flag showing the considerable decrease of 140,300 tons, as a result of the utilization of liners as transports. Under the Argentine flag we find 78 steam vessels with 43,001 tons, and 9 sailing vessels with 7,052 tons. At the Atlantic port of Bahía Blanca, during the normal period before August 1914, the number and tonnage of British vessels nearly doubled in the short space of a single year. Practically all the important shipments here were made in British vessels, notwithstanding the efforts of Germany to secure a footing in this trade. Rapid travel has become a necessity in Argentina as elsewhere. Competition between the various steamship companies for fast services between Argentine ports and Europe has become keener than ever.

The efforts of the government to foster the Argentine coasting trade have accomplished, unfortunately, very little. As for

river communication, some progress is now being made and the communications with Paraguay by the Paraná River are gradually improving. There is a service of rather light-draft steamers from Buenos Aires as far as Asunción, while transit by water between the capital and Rosario, to which port on the Paraná River ocean-going steamships ascend, is beginning to compete advantageously with the railways. From a handbook prepared by the Pan American Union (*Argentine Republic*, Washington, D. C., 1916) we quote as follows: "Austrian, Belgian, Brazilian, British, Danish, Dutch, French, German, Italian, Spanish and Swedish steamers arrive and depart regularly from the ports of Argentina to all quarters of the earth. There are 50 lines with agencies in Buenos Aires. Regular passenger service is maintained to the various ports of Europe and steamers leave or arrive several times a week. To New York, while there are not so many steamers, opportunity is offered at least once in a fortnight for the traveler to take a direct steamer." Argentine official statistics show that since the year 1900 the total tonnage (entrances and clearings to and from ports of the Argentine Republic) have increased 124.2 per cent. In March 1917 a regular line of cargo steamers was inaugurated between Japan and Argentina and Brazil. This line calls at Vladivostok, Chinese ports, Singapore, Durban and Cape Town.

### Railway, Postal and Telegraph Services

Argentine railways have at least one characteristic which distinguishes them from those of the other South American countries; each is part of a system designed to promote the development of the entire Republic.

For a number of years practically all imports were sent to Buenos Aires, and thence forwarded to the centres of consumption. That made necessary the joining of Buenos Aires with all the interior districts by a number of radiating main lines. These help to develop the agricultural districts they influence, which in turn give them a large amount of traffic. Secondary lines are then interconnected and the points where such lines cross the original lines become in turn new centres. Subsequently, radiating lines were constructed from other important places also, such as Bahía Blanca, Rosario and Santa Fé, the shipping facilities of these foci being increased to accommodate the growing traffic. The result is seen in the present logically developed system which is uncommonly efficient and capable of almost indefinite expansion. Up to the beginning of the year 1914 there had been constructed and,

as a rule, very well equipped, 20,502 miles of railways. Of these, 6,226 miles were of narrow gauge; 1,611 miles of standard gauge and 12,967 miles of broad gauge. Private corporations owned 17,351 miles, while 3,454 miles belonged to the State. The railway system was extended 391 miles during the year 1913. In 1915 there were open 22,688 miles of railways, of which 4,136 miles belong to the State. This railway expansion places Argentina in the ninth position, with respect to length of railways, among the countries of the world; more extensive systems exist only in the United States, Germany, Russia, France, India, Great Britain, Austria-Hungary and Canada. "The nation has realized," says the *Argentine Handbook*, "that to have a population to develop the rich soil of the country, the railway must go in advance of settlement. Surveys have therefore been encouraged and actual construction has been hastened into regions practically unvisited by man until then." A phase of the railway development during 1913 was the practical completion of the line westward from the Port of San Antonio, in Rio Negro Territory, to Lake Nauhal Huapé; the plan being to extend this road into Chile through the neighboring Cordillera. The Southern Railway also has continued construction from Neuquén toward the Andes, and the intention is to cross into Chile not far from Valivia.

The provinces of Buenos Aires, Santa Fé and Córdoba excel in the development of their railway systems; but each large political subdivision, except Los Andes and Tierra del Fuego, has at least some line built or building. The government by its plan of extension has carried its own lines into Jujuy, and thus to the Bolivian frontier, where connection is to be established with La Paz. Of international interest also was the inauguration and operation (1913) of a through passenger and freight service between Buenos Aires and Asunción, the capital of Paraguay. A law passed by the Argentine Congress in 1915 provides for the collection of a pension fund for railway employees. In 1912 a law was passed providing for the canalization of the Upper Uruguay; the work will be carried out jointly by Argentina, Brazil and Uruguay. A ferry boat service will also be established between Paraguay and Argentina at Posadas and Encarnación.

The so-called Mitre law, which went into effect 1 April 1908, is of great importance to investors in Argentine railways. Article 8 of that law states, with regard to railways:

The materials and articles for construction and operation which are imported into the country shall be exempt from import taxes, and this exemption shall be effective until 1 Jan. 1947.

The company shall pay, during the same period, regardless of the date of its concession, a single contribution [tax] equivalent to 3 per cent of the net earnings of its lines, being exempted during same period from all other national, provincial, or municipal taxes.

In 1906 the national Supreme Court decided that this law exempted the railway companies from the payment of any tax except the 3 per cent of their net earning, the net earnings being assumed to be 40 per cent of the gross earnings; but it has recently revised its decision, and the municipalities are now attempting to compel the railway companies to pay several years' back taxes for paving, lighting, etc. Some of the railway companies are paying the municipal taxes under protest. The principal railway companies operating in the Republic have asked Congress to pass a resolution enjoining the municipalities and provinces from collecting these taxes, and it is expected that the present Congress will decide definitely what interpretation is to be placed on the law.

The 3 per cent tax is expended on improvement to highways leading to the stations of the railway paying the tax.

The organization of posts and telegraphs was established by law in 1878. Argentina is a member of the Universal Postal Union, and the parcel-post convention with the United States was signed in September 1915. The mails receive systematic attention, and delivery is made to every place in the country. The number of permanent employees is about 13,500 and about 1,250,000,000 pieces are carried annually by railways, steamers, stage-coaches, and mounted messengers. In May 1913, there were 43,202 miles of telegraph, with about 2,600 telegraph offices, employing more than 10,000 persons in the service. The revenue of the Postal Department was $4,967,910 for 1914–15. The government owns about one-half of the telegraph system and the provinces of Buenos Aires and Entre Ríos have lines. Cable service between Argentina and other countries is chiefly in the hands of private companies. By agreement with Bolivia, Paraguay and Uruguay, the charges to those countries are the same as the Argentine inland rates. Argentina was the first of South American states to adopt wireless telegraphy. There are 12 stations for wireless telegraphy. All ships with a crew of over 50 and touching at Argentine ports are compelled by law to be provided with wireless equipment.

Consult Killik, S. H. M., *Manual of Argentine Railways;* Pan American Union, *Argentine Republic* (Washington 1916); Martinez, A. B., *Baedeker of the Argentine Republic* (4th ed., New York and London 1916). See *Bibliographies* under AGRICULTURE IN ARGENTINA, ETC.

## ARMY AND NAVY

Military service is compulsory to all Argentine citizens for the nominal term of 25 years, between the ages of 20 and 45. By means of an annual drawing of lots conscripts of 20 years of age are designated to serve for one year (Army) or two years (Navy). Conscripts who can not read and write are taught during the term of military service. Those joining the Army are also given instruction in agriculture. After the conscription service the citizens do not receive military training although they belong to the Active Army (first 10 years), then make up the National Guard (following 10 years), and lastly the Territorial Guard (remaining five years). There is also provision for soldiers enlisting under contract for citizens serving as a punishment for breach of the Military Law, and for voluntarily enlisted musicians.

The total establishment of the standing army was about 22,000 in 1916. The compulsory service was created in 1901 and since that time nearly 200,000 men have been trained. All officers in the Army are graduates from the Military School at San Martin.

## POLITICAL DIVISIONS AND CITIES

The Argentine Republic consists of 14 Provinces, 10 Territories and a Federal District. These, with their areas and populations, capitals and populations, are as follows:

| PROVINCES | Area (in square miles) | Population | Capital | Population |
|---|---|---|---|---|
| Buenos Aires (Federal District) | 72 | 1,594,170 | Buenos Aires | 1,594,170 |
| Buenos Aires | 117,777 | 2,155,118 | La Plata | 126,000 |
| Santa Fé | 50,713 | 922,406 | Santa Fé | 47,000 |
| Córdoba | 66,912 | 598,545 | Córdoba | 65,000 |
| Entre Rios | 29,241 | 423,100 | Paraná | 63,000 |
| Corrientes | 33,535 | 365,434 | Corrientes | 30,000 |
| San Luis | 29,035 | 126,805 | San Luis | 23,000 |
| Santiago del Estero | 55,385 | 247,184 | Santiago | 14,000 |
| Tucumán | 10,422 | 348,582 | Tucumán | 79,000 |
| Mendoza | 56,502 | 286,553 | Mendoza | 48,000 |
| San Juan | 37,895 | 130,412 | San Juan | 18,000 |
| La Rioja | 37,809 | 104,550 | Rioja | 12,000 |
| Catamarca | 39,800 | 112,995 | Catamarca | 14,000 |
| Salta | 48,502 | 161,150 | Salta | 25,000 |
| Jujuy | 14,892 | 73,062 | Jujuy | 16,000 |
| TERRITORIES | | | | |
| Misiones | 11,511 | 52,693 | Posadas | 8,000 |
| Formosa | 41,402 | 27,502 | | |
| Chaco | 52,741 | 49,509 | | |
| Pampa Central | 56,320 | 98,841 | | |
| Neuquén | 49,330 | 30,485 | | |
| Rio Negro | 79,805 | 37,302 | | |
| Chubut | 91,427 | 25,143 | | |
| Santa Cruz | 109,142 | 8,030 | | |
| Tierra del Fuego | 8,250 | 2,420 | | |
| Los Andes | 34,740 | 2,552 | | |
| Total | 1,153,119 | 7,979,259 | | |

## Buenos Aires

The capital of Argentina is situated on the south shore of the Rio de la Plata, 150 miles from the Atlantic, and 125 miles west of Montevideo. The river here is 30 miles wide, and the city is not more than 25 feet above sea level. It is the largest city in South America and, after Paris, the largest city of the Latin races in the world. It is coextensive with the Federal District (72.8 square miles), has considerably more than one-sixth of all the people of Argentina, and is the centre of the commercial, political, social, and industrial life of the Republic. Over 80 per cent of the country's imports and 57 per cent of the exports pass through it. The temperature is moderate, ranging between 79° and 55° F. The tremendous amount of business transacted annually, the large number of immigrants of all nationalities coming to it, the up-to-date improvements, and the general air of progress and business activity make it distinctly cosmopolitan rather than Latin American in character. The older streets of the city are narrow and on many downtown business streets traffic is allowed to go in only one direction. In recent years traffic congestion has become so pronounced as to be a serious problem, and in order to relieve it an underground tube has been constructed for some of the street car lines. In general, the streets cross each other at right angles, and are cut by avenues and boulevards, some of which are 100 feet in width. The streets are well paved with asphalt, wooden blocks, granite blocks, and macadam. There are 60 or 70 plazas and parks and considerable attention is given to this feature of the city's growth. One of the most noticeable features of the city is its extensive street car service, the tracks running on almost every street and intersecting each other at the street corners. The service is good and the fare is low. Over 355,000,000 passengers are carried annually and the receipts are about $15,000,000. The total length of tracks is about 450 miles. There are six terminal stations of railroads connecting the city with the north, south, and west. Numerous steamers ply between it and Montevideo and to towns along the Paraná and Uruguay rivers and affluents for a distance of 2,250 miles to the borders of western Brazil. Buenos Aires is connected with foreign countries by cable and has an extensive telephone and telegraph system. It is the terminal port of 12 transatlantic steamship lines. The city's only natural harbor is the mouth of a small river, the Riachuelo, but only light craft drawing 18 feet or less can make use of it. The principal harbor has been constructed at enormous expense. It consists of two basins and four docks, with a water area of 788,000 square yards, and with customs warehouses capable of holding some 400,000 tons. Four new docks, with a water depth of 33 feet, and with accommodations for 5,000,000 tons of shipping annually, are in course of construction at a cost of $23,750,000. These docks will connect at the water's edge with the railway terminals. There are 33 warehouses with a capacity of 1,100,000 tons, and having a frontage of over 3 miles on the wharves. There are over 200 hydraulic cranes, numerous elevators, capstans, swingbridges, etc., and a floating crane of 35 tons. There are over 60 miles of railroad tracks adjacent to the port. Modern grain elevators have been installed with a capacity of 300,000 tons. The live-stock wharf can accommodate 50,000 sheep and 2,000 cattle. The Central Produce Market is one of the largest warehouse buildings in the world. It covers an area of over 150,000 square yards, has 72 cranes and elevators, 44 hydraulic presses, and a capacity for 200,000 tons of wool, hides and other products of the cattle raising industry. Buenos Aires is also the principal industrial centre of the Republic. There are 11,400 factories in operation. These have a combined capital

of over $250,000,000 and 150,000 employees. The principal products of these establishments are machinery, carriages, furniture, flour, shoes, agricultural implements, leather, tobacco, hats, textiles, canned fruits and vegetables, glass, and liquors. Buenos Aires is 5,220 miles from London and 4,370 miles from New York. The imports at Buenos Aires in 1915 were $181,514,180 and the exports $223,312,256. It is thus the second port in America (New York being the first) and the 11th in the world. The entries of foreign vessels in 1915 numbered 4,104, of 9,986,400 tons. Home traffic entries amounted to 23,600 vessels of 5,780,000 tons. The principal articles of export are wool, sheep and cattle products, grain, and live-stock. Most of the imports from the United States to Argentina enter through the port of Buenos Aires. The import trade from the United States in 1915 amounted to $45,180,000 gold, or more than a third of the total export from the United States to South American ports, which was $124,500,000 in the same year. During the first nine months of 1916 the movement of cars over the railways of the port totaled 259,392 goods vans, carrying 2,372,816 tons of cargo, and 1,584 cattle cars. These figures include cargo brought to Buenos Aires for embarkation or for storage in elevators, that discharged or imported, and that in transit to other lines. The figures are divided as follows: Coming into the port, 1,613,914 metric tons; leaving the port, 363,663 tons; in transit, 395,239 tons. The population is estimated at 1,594,170. According to the 1909 census the population of the city included 670,513 Argentines, 277,041 Italians, 174,291 Spaniards, 25,751 French, 7,113 English, and 7,444 Germans. Of the 28,632 trading firms 4,713 were Argentine, 10,875 Italian, 6,318 Spanish, 747 English, and 756 German. North Americans operate 44 commercial establishments with a joint capital of $1,125,000 gold and seven industrial establishments with a capital of $322,000 gold. Buenos Aires is the official residence of the Ambassador of the United States accredited to Argentina and the seat of a consul general of the United States.

## Bahía Blanca

Bahía Blanca is a port of rapidly growing importance, ranking next to Rosario in volume of over-sea trade. It is situated in the Province of Buenos Aires 534 miles down the coast from the capital, has one of the best harbors in this section of the coast with 28 feet of water and is connected with the interior by four tracks of two great railway systems. It affords a convenient outlet for a large section of productive country. There are two grain elevators here with a capacity of 26,000 tons and facilities for quick loading. The city has three ports, and with dry docks, fortifications, etc., is the home of the Argentine Navy. The leading articles of its export trade are wool and grain. About 365,000 tons of wheat, 66,000 tons of wool, 9,000 bales of sheepskins, and 18,000 tons of frozen meat are shipped annually at this port. It is the seat of a United States consular agent.

## Rosario

This city, the second in commercial importance in Argentina, is situated in the Province of Santa Fé, 214 miles by river and 175 miles by rail northwest of Buenos Aires. It stands on a high bluff on the bank of the Paraná River, has wide streets, with electric street car service and electric lights. It is entered by five railroads and is substantially built. Rosario is the principal port and outlet for the products of the northern provinces of the Republic. It is also important as an importing port for the same region and its river commerce is considerable. Ocean steamships have access to its wharves. There are numerous grain elevators. The principal articles of export are wheat, hides and other agricultural and cattle

products, metals and ores. Its exports in 1913 were valued at $87,857,417 and the imports at $35,997,341. It contains eight up-to-date shoe factories, with good lighting and ventilation and modern American power equipment. There are also meat-packing establishments, sawmills, breweries, tanneries, sugar mills, soap, candle and grease factories, brick, tile and cement works, tailoring and dressmaking establishments, tobacco and cigar manufactories, foundries, paper and cardboard factories. Rosario is the second city in size in the Republic with a population of 180,000.

## Córdoba

This flourishing city, the capital of the province of the same name, is situated on the Rio Primero, a tributary of the Paraná. It is 246 miles by rail northwest of Rosario and 535 from Buenos Aires. It is situated at an elevation of about 1,200 feet, is regularly laid out and well-built. It contains many notable buildings including the National Observatory. Irrigation is practised in the surrounding district and the city is an important commercial centre. Calcite beds are worked nearby and there are manufactures of building material, lime, bricks and flour. Live-stock, hides and wool are exported. A dam has been built across the Rio Primero about 12 miles above the city; this gives the city a good water supply and furnishes irrigation and power for an electric plant. The University of Córdoba is the most ancient in the Republic.

## Tucumán or San Miguel de Tucumán

The capital of the province of Tucumán is situated on the Sali, 720 miles northwest of Buenos Aires, with which it is connected by rail. It is well built but the streets are narrow. Its importance as a commercial centre is increasing in proportion to the development of the region it serves. Gold, silver and copper are exported in small quantities, but agricultural products are the chief articles of trade. The city is the seat of a university.

## Mendoza

Mendoza, the capital of the province of the same name, is situated at the eastern base of the Andes, 647 miles west of Buenos Aires. Here connection is made with a narrow-gauge Chilean line, which, passing through the trans-Andine tunnel, gives a coast-to-coast railway connection between Buenos Aires and Valparaiso, Chile, a distance of 888 miles. The city is well built and has an electric street railway and an agricultural institute. It is the principal trade centre between Chile and Argentina.

## La Plata

This city is the capital of the province of Buenos Aires since 1882, when Buenos Aires was constituted a Federal District. Being built according to a matured plan and at great expenditure of money, it is one of the most beautiful cities in the country. It is located on the river Plata, 30 miles southeast of Buenos Aires, with which it is connected by electric and steam railways. It contains a fine museum, an observatory, Government House, treasury, library, and various theatres, churches, etc., has electric street cars, and is lighted by gas and electricity. It is becoming more and more prominent as a shipping port, as the harbor is a good one, being 1,450 yards long, 150 yards wide, and over 20 feet deep. The port is actually five miles north of La Plata and is called Ensenada. La Plata is a centre for the meat trade, and to this fact is to be ascribed in great part its increasing importance as a port of export. There are several factories.

# BOLIVIA

By Marrion Wilcox

## TOPOGRAPHY AND CLIMATE

BOLIVIA, bō-lēv'yä, an inland republic of South America, is bounded on the north and east by Brazil, northwest by Peru, southwest by Chile, south by Argentina and Paraguay. It extends from north to south between lat. 10° 20′ S. and 22° 50′ S. and from east to west between lon. 57° 47′ 40″ W. (Compare treaty with Brazil 17 Nov. 1903) and about 72° W. According to Bolivian claims, asserted in 1916, the limits should be stated as follows: lon. 57° 29′ 40″ W. and 69° 33′ 35″ W., and, on the eastern side, lat. 9° 34′ 50″ to 25° 13′ S. and, on the western side, lat. 10° 56′ 40″ S. to 25° 00′ 05″ S. Area, exclusive of contested claims, estimated at 560,000 square miles; but, including the Bolivian claims, it is officially stated to be 597,460 or 708,195 square miles.

The principal centres of population are now, and apparently have always been, located in the mountainous region of the western half of the country. The eastern districts, stretching away from the slopes of the Cordillera far into the torrid interior of the continent, are but sparsely settled. Running southeast through the departments of La Paz, Cochabamba, and Potosí is the principal range of the Andes Mountains, called the Cordillera Real. Here are the rich mineral districts of Bolivia: the Cerro Rico de Potosí alone has produced up to the present time about $2,000,000,000 worth of silver. Here are some of the highest mountains of America and one of the greatest continuous snow-ranges in the world, having an average altitude of 20,000 feet, with the superb peaks of Illimani, Sorata, and Illampu lifted two or three thousand

feet still higher above their gigantic associates. (Consult Conway, W. M., *The Bolivian Andes*, New York and London 1901.) The western range of the Andes continues in a line parallel with the Pacific coast, rejoining the Cordillera Real near Bolivia's southern boundary. Between these two ranges are the high plains, 12,000 to 13,000 feet, and Lake Titicaca, 12,488 feet, above the sea-level. This great sheet of water, 120 miles long, and from 30 to 50 miles wide, has an average depth of 100 fathoms. Lying southeast of Lake Titicaca are the two most famous cities of the republic, La Paz and Sucre. Three lines of railway connect the former, and the principal cities of the high plateaux, with the Pacific ports Mollendo, Arica, and Antofagasta.

The many different altitudes in Bolivia make it possible for the settler to choose his own climate. The tropical lowlands are practically the only section at all unhealthful. Residents of the upper plateau regions who are unaccustomed to such high altitudes are in the habit of spending a part of each year on the coast. In the region 10,000 to 13,000 feet above sea level the temperature averages about 50° F.; between 2,000 and 9,000 feet altitude 63° F., and 74° F. in eastern plains and lowlands near the headwaters of the Amazon.

In the valleys known as Yungas, and in the regions of the plains and forests of the north and northeast, the cold of winter is unknown. This, roughly speaking, is true of the entire eastern region which is divided into watersheds — that of the Amazon basin and that of the Rio de la Plata-Paraná-Paraguay river-system. In the latter are the Pilcomayo, the Bermejo, etc.; in the former the Beni, the Guaporé or Itinez, and the Mamoré — three great rivers forming, in the main, the Rio Madeira. Really, there are only two seasons in these parts: the summer, or rainy season, lasting from December to May, and the winter, or dry season, lasting from June to November. But on the high table-land



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The Plaza San Francisco, La Paz, Bolivia

one finds four seasons — spring, which begins in August and ends in October, and is characterized by gales of wind with moderate temperature; summer (November–February), at first dry and hot but in the second period rainy; autumn, the season of gentle heat, and here a brief season, extending over the month of March and April only; winter, including the months of May, June, and July, the season of low temperatures, icy winds, and snow. In these highlands, as at equal altitudes in other parts of the world, a traveller must make preparation, by physical training, to resist the attack of soroche (the local name for mountain-sickness), caused by the diminution of oxygen in the air. The subject of soroche, inasmuch as it must be considered in connection with travel in at least five of the South American Republics, is discussed in the article Latin America.

## HISTORY OF BOLIVIA

The country was formed in 1825 from the province of Upper Peru, and named in honor of the South American Liberator, Simon Bolívar. Partly within Peruvian and partly within Bolivian territory are the waters of Lake Titicaca, on the shores of which we find monuments of semi-civilization antedating the Inca conquest by more than 1,000, perhaps even several thousand, years. From the earliest times, therefore, Peru and Bolivia must have been united. The Incas of Cuzco overran this district in the 14th century, and 200 years afterward Hernando Pizarro added it to the conquest his brother had made at the heart of the Inca empire. Under the Spaniards, then, it was known as the district or territory of the high court of Charcas, and remained subject to the viceroy of Peru until 1776, when it became a province of the new viceroyalty of Buenos Aires. Before the coming of Pizarro the Sierra supplied a large part of the gold used for the decoration of the temples and palaces of the Incas; after the Spanish conquest the natives were driven to work, to continue or increase the output of precious metals for the benefit of masters whose ruthless severity was conspicuous even in that age. There is no entirely trustworthy record of the numbers of those who perished in the mines, but we know that a large Indian population was reduced to its present proportions in the course of two centuries. Taxation was oppressive; provincial governors became monopolists, from whom the natives were obliged to purchase their sup-

plies; here, as elsewhere in America, colonists were forbidden to raise any crops or manufacture any articles which could interfere with the industries of the mother country. Commerce was so strictly limited to Spain that even neighboring colonies were forbidden to have commercial dealings with one another. Toward the end of the 18th century the resentment of the Indians was expressed in several insurrections (1780–82); early in the 19th the provinces of Rio de la Plata and Peru aided the Bolivians in their struggle for independence (July 1809 to August 1825). Gen. Santa Cruz was in command of the expeditions from Lima which failed to drive out the Spanish troops in 1823. But in the following year General Sucre, marching from the same country at the head of an army encouraged by the victory of Ayacucho, was favored by a rising of patriots in all the principal towns. By February 1825 La Paz was in the power of the revolutionists, and in March the Spaniards lost their only remaining stronghold, the province of Potosí.

Deputies from the various provinces met at the capital, and before the dissolution of this Assembly (6 Oct. 1825) independence was declared. The Constitution adopted then (subsequently modified in important respects) was prepared by General Bolivar, and in accordance with the views entertained by the great Liberator at this period in his career, when he was master of Colombia and Peru as well, it vested the supreme authority in a president chosen for life. The first incumbent was General Sucre, who accepted the presidency for the space of two years only, and took the further precaution to retain 2,000 Colombian soldiers for his protection. In 1827 he and his Colombians were actually expelled from the country.

Since 1827 Bolivia has had 70 presidents or dictators. In 1828 Santa Cruz came into power and was confronted with a revolution the following year. In 1835, interposing in a quarrel of political factions in Peru, he defeated Gamarra, and named himself Protector of that country. Chile refusing to consent to the proposed union of her neighbors, three years of fighting ensued. Santa Cruz was defeated and exiled in 1839, but his party in Bolivia kept up the agitation and finally conferred the presidency upon General Ballivian. Meanwhile Gamarra, who had become President of Peru, tried to annex the department of La Paz. He lost his life in this attempt, and then the Bolivians in their turn would have invaded Peru if Chile had not again intervened. Ballivian surrendered his thankless task in 1848. The next President, Belzu, was borne into office on the crest of a wave of revolution;

by a revolutionary storm his successor, Córdova, was driven from office and from the land. Linares made himself Dictator in 1858, and was deposed in 1861. President Acha, his successor, fell from power when his forces were defeated in battle by his political antagonist, Melgarejo (February 1865). The latter may be characterized as a revolutionist until 1865; President from that time until 1869; Dictator from 1869 to 1871. Morales, elected in the year last mentioned, was succeeded in 1873 by President Ballivian, who died before a twelvemonth had passed. Frias, next to take office, was deposed two years later by the troops, who proclaimed General Daza President.

In 1879–1883 Bolivia and Peru were at war with Chile, and the defeat of the allies stripped from the weakest of the contestants her only possessions on the Pacific. Bolivia became a landlocked country. The national anger vented itself first upon the President whom the army had lifted up, and who now fled to escape assassination. But Campero, whom Congress chose to carry on the war, and who personally led the Bolivian troops in the field, was wholly unable to oppose Chile's demands alone, and Peru was an ally without power to aid. Bolivia saw herself obliged to acquiesce in an arrangement which some of her leaders hopefully regarded as provisional and temporary. Her bit of coast line and most of the coveted nitrate of soda deposits in the districts of Cobija and Tarapacá,— territory aggregating 70,181 square miles, with about 6,000 inhabitants,— passed into Chile's keeping. (For an account of the War of the Pacific, see Chile: Peru.)

Coincidentally, the failure in 1879–80, after years of effort, to secure the opening of a commercial outlet for Bolivian products to the Atlantic through the Amazon River and its great tributary, the Madeira, was a severe blow. The American contractors for the Madeira and Mamoré Railway of Bolivia and Brazil were deprived of the funds necessary to the prosecution of the enterprise by the withdrawal of the loan that had been placed in England in 1872 for the purpose of constructing this much-needed road. The undertaking was, nevertheless, brought to a successful conclusion 35 years afterward. (See below: Railways, and Brazil — Transportation.)

The Constitution of 28 Oct. 1880 vested the legislative power in a Senate and House of Representatives, and the executive power in a president elected for four years by direct universal suffrage. But little or no improvement in the political situation was observed. President Campero was succeeded by Gregorio Pacheco, and then came Aniceto Arce (1 Aug. 1888). It was

necessary to declare a state of siege in all parts of the republic in the summer of 1890. Attempts were made to overthrow the government, and a number of political leaders were arrested. The election of a successor to President Arce took place 3 May 1892. Violent collisions between the rival factions again compelled the authorities to proclaim a state of siege — which was continued even after the inauguration of the new president, Baptista, on 6 August. Indian revolts also occurred in this year, originating in both the north and the south, and spreading rapidly through the entire country. The barbarous practices of the Indians were, as is usual in this most repulsive species of warfare, matched by the repressive measures of the Bolivian troops.

Chile furnished arms and money to uphold the Baptista government; and the dependence of the country without sea coast upon the country all sea coast for a while was painfully evident. Bolivia had been placed in a position such that any one of her three powerful neighbors,— Chile, Argentina, or Brazil,— could win her allegiance by conferring substantial favors, or even by a display of international courtesy. Following Chile's diplomatic overtures, Argentina undertook to open up a way to the sea by a new railroad connecting the Sierra with her river system. Brazil's attitude remained in doubt, until the treaty of 17 Nov. 1903 showed that Acré, competing with Brazil in the production of rubber, was demanded as the price of any concession of a right of way.

When Fernandez Alonzo was elected to the presidency in 1896 his opponents protested that the government had tampered with the returns in such a way as to change the expression of the people's will under the constitutional guaranty of universal suffrage, and an uprising was successful in 1899. The revolutionists, under Col. José Manuel Pando, defeated the government forces in a pitched battle; President Alonzo fled over the Andes into Chile, and reorganization of the government was effected, with Señor Pando at its head. It is a pleasure to record the new orientation of domestic politics beginning at that time. The Pando, Villazon, and Montes administrations have devoted themselves to the solution of economic problems, keeping the best interests of the country steadily in view and endeavoring with marked success to stabilize the national policy. Bolivia and Chile signed, in 1904, a treaty of amity that replaced the peace treaty dating from 1884 and removed in large measure Bolivia's fiscal and economic dependence upon Peru and Chile. The able French writer, M. P. Walle, says that when President Villazon came into power

the country was still suffering from the effects of a long economic crisis, the scarcity of capital being such that the most insignificant transactions were often paralyzed. It was then that Señor Villazon conceived the idea of attracting European capital for the purpose of establishing a great bank, and thereby stimulating the industrial and commercial life of the country. The loan of $7,500,000, which was concluded in 1910 under the auspices of the Crédit Mobilier Français, made it possible to found the Bank of the Bolivian Nation. The results obtained are encouraging: in 1915 and 1916 the bank proved to be a source of strength for the vigorous Montes administration.

## GOVERNMENT

The Constitution adopted 28 Oct. 1880 provides for a government embracing President, two Vice-Presidents, cabinet of six ministers, Senate, and Chamber of Deputies. The President and Vice-Presidents are elected for four years by popular vote. They are not eligible for reëlection for the term immediately following. All unmarried males over 22, and married men over 18, who can read and write and own real estate, or have annual income of $40, are entitled to vote. The cabinet is appointed by the President. The Senate consists of 16 members (two from each Department) elected for six years, one-third retiring every two years. There are 75 members in the Chamber of Deputies, elected for four years, one-half retiring every two years. The Senate and Chamber meet annually for 60 days, or, when public business requires, for 90 days. During the sessions, senators and deputies receive $200 each month. The army, trained by European officers, numbers (active and first reserve) about 52,500 men.

## EDUCATION AND RELIGION

Education is state-aided, compulsory, and gratuitous. Schools are under the control of municipalities, except those, relatively few, which the church controls. There are universities at La Paz and Sucre; in the former city, the military academy; American institutes, under American professors, at La Paz and Cochabamba; a mining and engineering school at Oruro. In 1913 there were 900 elementary schools with 3,960 teachers and 58,865 pupils.

For secondary instruction there were 21 colleges, 5 clerical institutions, and 5 private lyceos, with 180 teachers and 2,598 pupils. For superior education there are 19 establishments with 78 professors and 1,291 students.

According to the Constitution, only the Roman Catholic Church is recognized by the State, but in practice toleration is extended to other forms of worship.

## INDUSTRIES AND COMMERCE

### Agriculture

Bolivia produces and contains in the depths of its soil all the natural products of the world. Wheat, meat, fuel, building material, metals for the industries, gold and silver all are produced within its borders. The climate is such that several crops a year may be obtained with little effort. The country has a varied flora and fauna. The alimentary plants include wheat, corn, beans, manioc, bananas, potatoes, barley, rice, olives, almonds, peanuts, cocoa, coffee, nutmeg, besides rubber and cotton. Peruvian bark, palm, cacao, bamboo and vegetable ivory are also plentiful. Balsam, vanilla, copal, tobacco, sugar, and sarsaparilla are produced in considerable quantities. The forest growths include, acacias, myrtles, mahogany, rosewood, vegetable silk tree, Spanish cedar, lignumvitæ, ebony, and other woods suitable for various industries. At the Panama-Pacific Exposition of 1915 Bolivia exhibited more than 1,000 different varieties of woods.

The views of the Government of Bolivia on agriculture, as expressed by the Minister of Finance in a formal communication to the Financial Conference held in 1915 at Washington, are these: "It may readily be acknowledged that our agriculture is still in an embryonic state, and that it is being carried on with no other object in view than that of obtaining from nature what she will give readily. This applies not only to foodstuffs and cattle-breeding, but also to the production of rubber by a system that absolutely requires reorganization, with a view to establishing plantations that will in future be capable of competing against the scientifically devised East Indian rubber plantations. The field of arts and manufactures still remains virgin soil. The country may be said to be devoid of manufacturing enterprises in any of the manifold and profitable lines." The distinguished Government Delegate to that conference, Señor Ballivián, writes that all

Bolivia's energies have been employed in establishing a "complete railway net of communication and developing her mineral resources. The agricultural products have been insufficient to meet the demand of her domestic consumption." He adds: "Bolivia and Brazil produce the best quality of rubber obtained from the trees of the Hevea or Syphonia Elastica known in the market as Pará rubber. But, owing to the foresight and persevering endeavors of the English Government to acclimatize those trees in their Asiatic dominions, plantations have spread all through the Orient, causing deadly competition in spite of the superior quality of the South American product. Nevertheless it would be wise for capitalists to undertake similar well organized plantations in the *habitat* of the rubber tree in Bolivia and Brazil where lands can be easily acquired as well as estates where already exist fully matured rubber trees ready for immediate exploitation. In Bolivia there are new opportunities and inducements for such plantations on account of the recent installation of the railway built with American capital in connection, at Porto Velho, with ocean steamers of 4,000 tons, during four months and of 2,000 tons all the year round." It is true that the vegetation is poor and sickly on the lofty table-lands, but in the valleys which run from the sides of the eastern Cordillera into El Beni, Santa Cruz, Gran Chaco and the National Territory, it is rich and varied, comprising rubber, quinine, and other valuable products. The vast eastern plains will be the source of abundant agricultural products when the rivers of the Amazon basin and of the Rio de la Plata watershed can be fully utilized for transportation to the Atlantic.

Cacao and coffee are cultivated in the Departments of La Paz and Cochabamba, while other valuable vegetable products are produced in El Beni and Santa Cruz. Coca, from the leaves of which the alkaloid of cocaine is produced, is one of the most valuable products of Bolivia. A large area of the Republic is well suited to the cultivation of wheat, but this crop has been studied but little. The government has imported wheat of superior quality from the United States and Argentina for the purpose of supplying a high grade of seed to home growers. Cattle, sheep, and llamas are abundant, and the government maintains a veterinary institute and agricultural school.

### Mining

Tin and copper are the two minerals most advantageously produced, according to an authoritative Bolivian statement in 1915; and the output of tin, given as 45,000 tons of ore of 60 per

cent grade, showed that Bolivia ranked next to the Straits Settlements as a source of this metal. It is proper to mention here the high quality of Bolivian copper-ore, and to note the recent discovery of petroleum fields of great extent in the southern regions of the Republic. But still more recent information (April 1916) calls attention to other ores with special emphasis. Heavy exportation is reported not only of tin but also of tungsten ores, which have been found in large quantities in various districts of Bolivia. Tungsten ores averaging 70 per cent sold in La Paz for 600 bolivianos ($233.58 at normal exchange) per quintal of 100 pounds; and vanadium and molybdenum are added to the list of mineral assets. In the *Monografía de la Industria Minera*, which President Villazon caused to be published, there were registered, besides enormous tracts of argentiferous deposits, tin mines numbering 126; copper, 42; gold, 72; wolfram, 16; and bismuth, 3. There are, indeed, some establishments already equipped with modern machinery; but it is thought that, to some extent, the future prosperity of Bolivia depends upon the granting, to capitalists of the United States or of other countries, of really ample facilities for smelting (especially the tin ores) near the mines. The better plan may be, however, to establish smelters in the United States, and to import the ores or concentrates. Oruro is the centre of the mining industry. Lack of water power and inadequate transportation facilities are the chief factors hindering development on a larger scale. Many mines send their products to the nearest railway by llamas, which carry but 100 pounds and can be successfully handled only by Indians. A few mines have hydro-electric plants. Oil fields near Santa Cruz are being worked at a profit by the Sociedad Petrolifera de Bolivia, a corporation controlled largely by Chilean capital. Consult Pan American Union, *Bolivia* (Washington 1916), the Bollivián *Memorial* and Walle's *Bolivia* (see *Bibliography*).

## Commerce

Exports from the United States to Bolivia were valued at $960,189 in 1915, as compared with $805,876 in 1914, and with $962,459 in 1913. A review of Bolivia's foreign commerce as a whole in 1915, published 2 March 1916, shows that the imports were less than one-half of those of 1914, while the exports of 1915 were nearly one-third more in value than the 1914 exports. The favorable trade balance is noteworthy, the value of imports in 1915 having been only $7,676,162, although exports in the same

year were valued at $33,017,691. The imports of cotton goods average in value about $1,000,000 a year. Tin is the largest item of export. The following table shows the superiority in the value of exports of tin, copper, antimony, bismuth, rubber, silver, and wolfram in the year 1915:

| Articles | 1915 | | 1914 | |
|---|---|---|---|---|
| | Metric tons | Value | Metric tons | Value |
| Antimony | 13,085 | $4,216,050 | 186 | $11,900 |
| Bismuth | 568 | 1,071,125 | 437 | 924,649 |
| Copper | 17,872 | 3,820,821 | 3,874 | 921,629 |
| Rubber | 5,485 | 4,521,032 | 4,485 | 3,221,063 |
| Silver | 77 | 1,092,647 | 72 | 984,686 |
| Tin | 39,312 | 19,268,862 | 37,259 | 16,324,636 |
| Wolfram | 499 | 293,462 | 276 | 166,608 |

Careful study of the development of imports and exports during the 10 years immediately preceding the one last mentioned proves the growth in the volume of foreign trade to have been during that decade equal to an increase of 301 per cent. It is interesting to observe that the increase in the national revenues during the same decade was 230 per cent. Valuable information in regard to foreign commerce will be found in *Exporting to Latin America*, by E. B. Filsinger (New York 1916), and *Proceedings of the First Pan American Financial Conference* (Washington 1915).

## BANKING AND FINANCE

The principal banks are: Banco de la Nación Boliviana (already mentioned), Banco Mercantil, Banco Nacional de Bolivia, and the Banco Francisco Argandoña. A gold reserve of 40 per cent is required by law. Under an act recently passed relating to the organization of the Bank of the Bolivian Nation, above mentioned, the said bank has been granted the exclusive right to issue notes, the Nacional de Bolivia, Mercantil, and Francisco Argandoña banks having been deprived of such right, and directed to redeem the notes issued by them within five terms of six months each, beginning 1 Jan. 1913. The only foreign bank established in Bolivia is the Banco Alemán Transatlantico — the German bank. The annual dividends declared by the banks vary between 10 and

20 per cent. Four institutions doing business in the country confine their operations to loans on real estate, against which they issue mortgage bonds. They are: Credito Hipotecario de Bolivia, Banco Hipotecario Nacional, Banco Hipotecario Garantizador de Valores, and the Banco Hipotecario Mercantil.

All banks are compelled by law to issue half-yearly statements of their profit and loss. The three principal banks, at the close of 1916 showed profits for the six months preceding as follows: Banco de la Nación, $520,025; Banco Nacional, $116,607, and the Banco Argandoña, $44,860.

Under a law passed by the Bolivian Congress on 27 Oct. 1916, the banks of Bolivia advanced to the Government the sum of £96,500 sterling ($469,600), the amount advanced by each bank being in proportion to its authorized capital. The purpose of this loan was to assist the Government to meet its internal obligations, and especially to meet the interest due on its foreign debt. The amount was to be refunded to the banks not later than 31 Dec. 1916. The 31st having been a holiday, the 4 Jan. 1917 was the first day upon which payment could be made to the banks. On that day the National Treasury of Bolivia transferred to the credit of the banks the sum of 1,206,250 bolivianos, which was the full amount due. The amounts advanced by the four banks participating in the loan were: Banco de la Nacion Boliviana, £45,800 ($222,875); Banco Mercantil, £22,500 ($109,500); Banco Nacional, £18,800 ($91,475); Banco Argandoña, £9,400 ($45,750).

According to a memorial of the Minister of Finance, the public debt of Bolivia on 30 June 1916, totaled 53,211,355 bolivianos ($20,715,180 at exchange of $0.3893)—36,340,595 bolivianos ($14,147,395) as external debt and 16,870,760 bolivianos ($6,567,785) as internal debt. The foreign debt is made up of the following items: Morgan loan, existing balance, 5,124,929 bolivianos ($1,995,135); French loan of 1910, existing balance, 17,486,750 bolivianos ($6,807,590); French loan of 1913, existing balance, 12,117,250 bolivianos ($4,717,245); value of warrants issued in favor of the bankers of the 1910 loan, 337,500 bolivianos ($131,390); National City Bank loan, 1,274,166 bolivianos ($496,035).

Referring to this last-named obligation, the Minister of Finance gives account of the important operation effected by the Government, which, taking advantage of the high rate of international exchange, transferred the National City Bank debt to the Banco de la Nacion Boliviana. On 1 June 1916, the latter institution paid the balance due the former, 1,390,000 bolivianos ($541,125), and the Government is therefore under obligation to pay the

Banco de la Nacion the monthly sum of 115,833 bolivianos ($45,095) in currency.

The internal debt on 30 June 1916 comprised the following items: Compensacion Militar Acre y Pacifico, balance of bonds in circulation, 1,902,200 bolivianos ($740,525); Acre indemnity, 177,600 bolivianos ($69,140); internal debt, 1,419,100 bolivianos ($552,455); 1914 bonds, 9,788,000 bolivianos ($3,810,470); gold banking loan, 1,206,250 bolivianos ($469,590); Banco de la Nacion, Koening Bros., and other obligations, 1,050,000 bolivianos ($408,765); Banco de la Nacion, advances on customs warrants, 1,327,610 bolivianos ($516,840).

The National budget for 1915 estimated the receipts at 16,985,000 bolivianos (say, $6,607,165) and the expenditures at 21,453,938 bolivianos (say, $8,345,271.88). Bolivia is ranked among the gold-standard countries, although no gold has as yet been actually coined. To the theoretical monetary unit, the boliviano, are assigned 100 centavos representing 0.63904 grammes of gold .91666 fine, or say .58579 grammes of fine gold (B12.50 to the £ sterling). Its par value in terms of currency of the United States is $0.3893, and the value therefore of $1.00 U. S. currency, expressed in terms of Bolivian currency, is Bs 2.5685. The normal rate of exchange in Bolivia for 90-day drafts on London fluctuates around 18½d. per boliviano. This rate declined after 1 Aug. 1915 to 14¾d. per boliviano, with remittances scarce and difficult to procure even on that basis. The quotations in Bolivia for exchange on New York are more or less nominal, even under normal conditions, and vary from Bs 2.60 to Bs 2.80 per $1.00 currency of the United States. (Cosby, J. T., *Latin American Monetary Systems and Exchange Conditions*, New York 1915). In May 1915, the rate for New York sight draft was quoted at Bs 3.30 = $1.00 currency of the United States.

## RAILWAYS, POST AND TELEGRAPH

A plan of railway construction has been adopted, the fundamental object of which is to facilitate traffic toward both the Atlantic and the Pacific by means of branch lines radiating from the principal railway system, the Antofagasta-Oruro-La Paz Railway. (We mentioned above the lines from Mollendo and Arica). One of the branch lines, running to Rio Mulato and Potosí, has been inaugurated. The Oruro-Cochabamba branch is

designed to furnish an outlet for a department in which the soil is most fertile and the climate commendable. The activity of the Bolivian Government at the present time in the construction of railways, the establishment of automobile routes, and the building of new trails leading into the vast agricultural regions of Eastern Bolivia is a subject of much favorable comment both in Bolivia and other South American countries. The present Government of Bolivia is deeply impressed with the fact that upon the solution of the problem of labor supply must depend the future progress of the mining industry of Bolivia. The labor supply of Bolivia is limited by the fact that the conditions of life are extremely difficult in the regions where the mining centres are located, due to the high altitude of these regions and to the aridity which characterizes the highlands of Bolivia. The purpose of the Government at present is to afford easy communication with the lowlands of Eastern Bolivia, and thus make available a constant and dependable supply of food to the highlands in which the mines are located.

The Atocha-Tupiza section of the Uyuni-Tupiza Railway is all that remains to be constructed of the line which eventually will connect La Paz with Buenos Aires, and it is of primary importance in the development of commercial, political, and social solidarity between these two countries. It is believed that this route will attract a great deal of the business which is at present enjoyed by the Transandine Railway connecting Buenos Aires with Santiago, the Bolivian route having the advantage of being open throughout the year.

A South American periodical says that the saving in time by the Bolivian route in comparison with the Transandine route would be two or three days during the summer months, that is, from September to March or April; but in winter, when the Transandine road is closed, and mails must go by way of the Strait of Magellan, the saving in time would be about 10 days. It is also believed that this through Bolivian route will become an important rival of the Panama Canal, since it will offer quicker and more direct transportation from Europe to the west coast of South America. The completion of the Madeira-Mamoré Railway promises to be even more important than the other achievements we have just mentioned, for this line affords an outlet to the Atlantic by way of the Madeira and Amazon rivers, for the forest products of an enormous region.

Bolivia forms a part of the Universal Postal Union. All the large towns are served. In the interior the mail is carried by postilions. Capitals of Departments and some of the rural centres of population are united by telegraph and have telephone service. There are 317 post offices with 732 officials. In 1914, 5,215,501 pieces of postal matter were handled. The extent of telegraph lines, both public and private is 4,259 miles, operated by 216 officers. Wireless telegraph stations are authorized at La Paz, Riberalta or Villa Bella, Cobija, Trinidad, Santa Cruz, Puerto Suárez, and Gran Chaco.

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## POLITICAL DIVISIONS AND CITIES

The Republic of Bolivia has now eight Departments, and three national Territories. They are as follows:

| DEPARTMENT | Population | Capital | Population |
|---|---|---|---|
| La Paz | 517,416 | La Paz | 83,000 |
| Cochabamba | 395,395 | Cochabamba | 44,000 |
| Potosí | 395,738 | Potosí | 25,000 |
| Santa Cruz | 210,000 | Santa Cruz | 21,000 |
| Chuquisaca | 240,723 | Sucre | 25,000 |
| Tarija | 102,887 | Tarija | 9,000 |
| Oruro | 160,000 | Oruro | 27,000 |
| El Beni | 35,816 | Trinidad | 5,132 |
| Territorio Nacional de Colonias del Noroeste | | Riberalta | |
| Territorio Nacional de Colonias del Gran Chaco | | Villa Montes | |
| Delegación Nacional en el Oriente | | Puerto Suárez | |
| Total | 2,078,572 | | |

## La Paz

This, the most important city of Bolivia, lies in a depression of the Bolivian highlands at an elevation of about 12,000 feet. It is well-built, and contains many notable buildings. There is a modern electric street-car line, equipped with American rolling stock. The city has seven daily newspapers, breweries, distilleries, candle factories, spinning and weaving mills, a brick works, a national match factory with a monopoly for making matches for the whole country, and several good banks. Automobiles are now in evidence, modern dwellings are being erected, and many civic improvements have been installed. Of the population about 30 per



Street-vendors in La Paz, Bolivia

cent are Indians, who perform most of the manual labor, and do most of the carrying as there are few or no vehicles in the city. The water supply is good, but sanitary conditions are not of the best. While Sucre is the legal capital of the country, the headquarters of the Government for many years have been at La Paz. La Paz is connected by rail with the ports of Arica and Antofagasta on the Pacific coast. The line to Arica is 264 miles long, that to Antofagasta is 711 miles. Another route to the Pacific is by rail to Guaqui (59 miles) on Lake Titicaca; from Guaqui 2,000-ton steamers cross the lake to Puno, Peru, the trip taking 12 hours, thence by rail to the port of Mollendo. The whole distance to the coast by this route is 533 miles and is covered going down in about 30 hours. All three ports are regular ports of call of the steamers between Panama and Valparaiso. Mollendo is the terminal port of the Peruvian Steamship Company, the steamers of which can be taken from Panama.

## Sucre

Sucre, the legal capital of Bolivia, is situated in the south, about 300 miles southeast of La Paz, and 120 miles from Cochabamba. It contains a university, several theatres and numerous and fine public buildings, is the seat of the supreme court and of an archbishop. It is 9,300 feet above sea level. Its industries are mining and agriculture. The city as yet has no rail connection with the other cities of the

Republic. An automobile service for passengers and freight is in operation between Sucre and Potosí, a distance of about 150 miles. A railway between these cities will soon be constructed under orders of the government.

## Other Cities

Other important cities of Bolivia are: COCHABAMBA, located in a fine and fertile valley, about 8,000 feet above sea level. It is well laid out and has manufactories of cotton and woolen goods, leather, soap, and earthenware. There is a considerable trade in grain, as the surrounding region is the granary of Bolivia. A railway is being constructed connecting it with Oruro, and electric trolley lines connect it with the more important neighboring towns. ORURO, the centre of the mining district is also the railway centre of Bolivia. The richest tin deposits are about 30 miles to the south. A school of mines is located here. It has electric lights and a street railway system, and there are numerous industrial establishments, including a large boot factory. It is a bare and windy city. POTOSÍ is famous for its silver mines since early Spanish days. One of its principal buildings is the government mint. It is one of the highest cities in the world, being 13,600 feet above sea level. Many of the mines have been abandoned and a large part of the city is in ruins. However, railways and modern mining machinery are restoring its lost prestige. Infant mortality is so great, because of the altitude, that the population can only be kept up by immigration. TUPIZA and TARIJA, to the south, and SANTA CRUZ, to the east, have a mild and pleasant climate. The last named city has an ice factory, tanning mills, and boot and shoe factories, saddlery and blanket factories. There are also cigarette factories, distilleries, saw, flour, and sugar mills. There is an active trade with the Indians of the plains. Cotton and sugar cane are infant industries here, but capable of extensive development.

# BRAZIL

By Marrion Wilcox

## TOPOGRAPHY AND CLIMATE

BRAZIL (Estados-Unidos do Brazil, the name, signifying at first the land of red dye-wood, derived through the Portuguese *braza*, burning coal), a republic bordering upon all of the South American countries except Chile, and bounded on the east, northeast and southeast by the Atlantic Ocean. It is nearly three times as extensive as any other Latin American country, and its natural resources are very great; but one lesson of the crisis in 1916 was that, even more than its neighbors, Brazil requires, for the development of these resources on an adequate scale, both immigration and new industrial enterprises. The central fact concerning the vast equatorial and Amazonian regions is that their rank vegetation defies the efforts of casual settlers, and nothing less than a teeming population could properly subdue them to human uses. The country extends between lat. 4° 22′ N. and 33° 45′ S. and long. 34° 40′ and 73° 15′ W. and the total area, according to the most recent computation, is 3,292,000 square miles; and this includes the largest compact body of fertile and habitable territory that yet remains unimproved, and even, in part, unexplored. Nearly the entire population of the republic is still found on a comparatively narrow strip of land extending southward along the Atlantic coast from Pará, below the mouth of the Amazon, to the line of Uruguay, or on the banks of the Amazon and its chief northern and southern affluents. In other words, the white people have clung to the fringe of the continent which their ancestors took possession of in the 16th century in

the fashion we shall presently describe; and (except on the south-eastern plateau and along the main water-courses) no civilizing conquest and occupation of the interior, such as occurred in North America, have been effectively undertaken. The two largest Brazilian states have less than one inhabitant per square mile. (See *Population*).

Mr. Denis, in a recent book (see *Bibliography*), after cautioning the reader that great stretches of territory in Brazil are still hardly known and that the total area of the country is 15 times as great as that of France, succeeds in giving a description of general physical features which is vivid and, within the confessed limitations, really excellent. We should first picture to ourselves a vast table-land of irregular structure, behind the seaboard of the South Atlantic, running from Cape S. Roque to the neighborhood of the Rio de la Plata, and covering the eastern half of the Republic. Beyond this, proceeding toward the interior across immense plains of sandy soil, we reach the central depression of South America: toward the north [from a low, and very ancient, nearly effaced continental divide or watershed] extends the basin of the Amazon, and toward the south that of the Paraná. In the north the Amazon basin belongs to Brazil; in the south the Paraná and Paraguay rivers are Brazilian only in their upper reaches. South Brazil is limited to the belt of table-land; and thus we note that, while in the north the Amazon, both at its mouths and along the greater part of its basin, is a Brazilian river, to the south Brazil does not even reach the Rio de la Plata, the common estuary of the Uruguay, the Paraná, and the Paraguay. The high plains of the interior have never been of economic importance; the valley of the Amazon has been developed only of late years to a very slight extent, and its population is as yet small. It is therefore the table-land of the Atlantic seaboard, from



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President's Palace, Rio de Janeiro, Brazil

Ceará to Uruguay, that constitutes the soil of historic Brazil. Through its length of 1,800 to 2,200 miles this table-land presents the greatest variety of aspect and has no hydrographic unity. Its height is greater in the south, where it reaches 3,200 feet; and this general slope from south to north is revealed by the course of the São Francisco. In Brazil the name Borburema is employed to denote the northern portion of the plateau. The dry season there is long: the Borburema gives a scant supply of water to the small seaboard rivers that flow fan-wise into the Atlantic — the plateau in that region sloping gently to the ocean. In southern Brazil, on the contrary, the seaward face of the plateau is a huge bank 2,500 to 3,000 feet in height, separating a narrow strip of coast from the inland regions. This long bank or watershed, the Serra do Mar and Serra Geral, is a barrier which, for a great distance below São Paulo, no river pierces: the streams which rise upon its landward side, almost within sight of the Atlantic Ocean, cross the whole width of the plateau before they join the Paraná or the Uruguay. Thus the Serra do Mar is not properly a mountain range, although from the ocean it has the appearance of one. Beyond the *serra* is Minas, a confused mass of mountain groups among which it is no easy matter to trace one's way, either on the map or on the trail itself. The Mantequeira, a colossal backbone of granite, crosses southern Minas. We find the plateau transformed, so to speak, when we pass the São Paulo frontier: there is no more granite, and the landscape grows tamer. Primitive measures of gneiss and granite, out of which the Serra do Mar is carved, are hidden under a bed of sedimentary rocks. The topography of the country changes with the geologic structure. The outcrops of sandstone which one crosses in traveling westward cut the table-land into successive flats. Irregular ranges turn their abrupter slopes toward the east; and these cliffs of sandstone, obviously not mountain-chains, not *serras*, are locally known as the *serrinhas*. In Santa Catharina and Rio Grande do Sul great eruptions of basaltic rocks cover a portion of the plateau; the basalt has even reached the seaboard, and south of the island on which Desterro, or Florianopolis, is built, it overlies the granite of the Serra do Mar. The southern flank of the plateau overlooking the prairies of Rio Grande, where the Pampas of Argentina and Uruguay commence, are also basaltic.

The various regions of Brazil owe their peculiar character above all to the vegetation, as Mr. Denis says; and he mentions the concentration of the forests in two regions — the Amazon Valley and a long strip of seaboard on the Atlantic coast, from

Espirito Santo southward, where the Serra do Mar, "receiving the humidity of the ocean winds upon its dripping flanks, produces far to the south the conditions which have made the Amazonian basin the home of the equatorial forest." The same splendid and impenetrable growth is found everywhere on the slopes of the *serra* for a distance of 1,200 miles: "It encircles and embraces Rio, seeming to refuse it room for growth." Even far inland, or at a distance west of the coast ridge, the basins of the Rio Doce and the Parahyba, as well as the southern and western parts of Minas Geraes, are afforested. Also in São Paulo and Paraná (the states) forests are found beyond the *serra;* and on the plateau they alternate with prairies. Beyond the agricultural regions, as we advance toward the interior we enter a region without house or trail, the so-called *Sertão.*

In his ancient but ever delightful *New Discovery* (*Nuevo Descubrimiento:* see *Bibliography*) Acuña wrote that the climate on the Amazon itself and in all the adjacent country is temperate: to such an extent that there is no heat to prove disagreeable, no tiresome cold (*ni frio que fatigue*), nor variations in temperature, to molest one. This favorable characterization of course does not apply to districts in which the mitigating effects of the trade winds are less apparent. It is also necessary to remember that, although the whole interior of Brazil has only steady heat, with a very slight range in temperature throughout the year, there are well-defined dry and rainy seasons. Mr. Denis writes: "At the first rains, which fall in September or October, the wearied vegetation abruptly awakens. Then comes the time of plenty, when earth affords the herds of cattle an abundant pasturage. March brings back the drought to the scorching soil." The vast regions in which the dry and rainy seasons hold sway extend toward the south somewhat beyond the Tropic of Capricorn; but as we proceed from that line still farther southward the variations of the temperature become more marked. In Brazil's southernmost state frosts occur from June to September; and here one notes the re-establishment of winter, as the word is understood in North America and Europe, although of course our warmest months of summer become the moderately cold months of winter on the plains so far below the equator. The ocean side of the *serra* has no alternation of seasons whatever, for all the months of the year are alike: there are no strictly cool or cold or dry periods.

It is proper to revert now, after having noted climatic differentiations in the south and the *serra,* to the much larger and more


SOUTH AMERICA
(NORTHERN PART)
Railroads
Submarine Cables
Size of type indicates relative importance of places
Principal water routes
C O L O M B I A
E C U A D O R
P E R U
B O L I V I A
Iquitos
Arequipa


BAY OF
RIO DE JANEIRO
RIO
ATLANTIC OCEAN
RIO DE JANEIRO and Vicinity
FRENCH GUIANA
Cayenne
Oyapock
Amazon
Para
PARA
MARANHAO
Parte Imperial
PIAUHY
CEARA
RIO GRANDE DO NORTE
PARAHYBA
PERNAMBUCO
ALAGOAS
BAHIA
SERGIPE
GOYAZ
MATTO GROSSO
RIO DE JANEIRO
ATLANTIC OCEAN

characteristic equatorial region. Observing the action of the trade winds on the temperature of the Amazon Valley, Mozans (see *Bibliography*) writes: "Although our course was almost directly under the equator the thermometer rarely rose above 75° F. One entry in my diary, made near Tabatinga, reads as follows: 'Temperature at 7 A.M. 68° F.; at 10 A.M. 67° F. — cool enough for a light overcoat.' Another entry, made near Obidos, reads: 'Very cool all day. Temperature from 68° F. in the morning to 66° F. in the afternoon.' Still another observation at 6 o'clock in the evening, on board our steamer in mid-river, gives the remarkably low temperature of 62° F. at Pará, which is sometimes supposed to be a place where one gasps in a fierce, unintermitting, intolerable heat. The maximum heat encountered at the chief towns between Iquitos and Pará is never so high as it often is in New York and Chicago, notwithstanding the difference in latitude of nearly 3,000 miles." Entries in the diary of the author of this article give, for various points in equatorial Brazil, a somewhat higher range of temperatures, with a maximum of 86° F. at noon on a single occasion. The series of temperature records, for both Atlantic and Pacific republics, is given in the article LATIN AMERICA.

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## HISTORY OF BRAZIL

Brazil was discovered in 1500 by a companion of Columbus, Vicente Pinzón, who made no settlement, and, indeed, would not have been justified in doing so. The bull of Pope Alexander VI. (4 May 1493) had bestowed upon Portugal the lands which should be found east of the line of demarcation, and commissioners of Spain and Portugal had agreed, on 7 June 1494, that the position of the line of demarcation should be changed so that it should pass, north and south, 370 leagues west of the Cape Verde Islands.

instead of at a distance of only 100 leagues west of those islands, where the Pope had established it. Accordingly Spain was precluded by her own act from claiming the eastern portion of the continent of South America. A Portuguese commander, Pedro Alvarez Cabral, when on his way around the Cape of Good Hope to the Far East, in 1500, encountered severe storms which drove his vessels from their course; and through this mischance he reached the Brazilian coast in April. Mass was celebrated there on Easter Day; the country was declared a dependency of Portugal, and a stone cross was erected. There Cabral himself embarked for



Avenida Rio Branco, Rio de Janeiro, Brazil

India, but first sent a vessel to Lisbon with a report of this important discovery. As soon as practicable after receiving the account of his new possession, Dom Manuel placed three vessels under the command of Amerigo Vespucci, instructing this Florentine to make good Portugal's claim to the land which a Spaniard had discovered. Thus, from the beginning, Brazil was marked out as a field for international competition. Vespucci's first voyage being unsuccessful, a second was undertaken with better results. He remained for five months at a point he named "All Saints," and when it became necessary to return left 12 men as a garrison in a small fort. The impression created by the experiences of the early adventurers was not highly favorable. Poor and unattractive, indeed, did this land seem in comparison with India and Africa. During the years that followed Portuguese merchants dispatched vessels to trade for Brazil-wood, and the Portuguese government jealously resisted French and Spanish attempts to gain a foothold or carry on commerce eastward of the line of

demarcation; but the court at Lisbon continued to prefer the profits to be won along the course that Vasco da Gama had opened up. The first settlements, therefore, were not made by the government, but by grantees whom the government induced to colonize by assigning to each leader a splendid possession, or "captaincy"— no less than 50 leagues of coast, with feudal powers and the privilege of extending his domain as far inland as he desired. Thus the province of São Paulo was settled by an expedition under Piratininga; next Affonso de Sousa explored the coast from Rio de Janeiro (so called because it was discovered 1 Jan. 1531) to the Rio de la Plata. Lopes de Sousa received two allotments of 25 leagues each, one being near Pernambuco and Parahyba. Fernandez Coutinho and Pedro da Campo Tourinho established themselves near the spot where Cabral landed. Francisco Pereiro Coutinho received a grant of a captaincy, extending from Rio São Francisco to Bahía. The captaincy of Pernambuco was given to Duarte Coelho Pereira; and so the most attractive portions of the coast were distributed. Cattle and sugar-cane being introduced from Madeira, the systematic cultivation of the latter began; though some authorities maintain that both sugar-cane and coffee are indigenous to Brazilian soil. Enormous difficulties were encountered from the first by proprietors and planters. Only men of large means (including some of those adventurers who had amassed fortunes in India), were able to equip and maintain such a considerable force as was necessary if these undertakings were to be successful. The natives were, as a rule, extremely mistrustful, besides being the most savage of their kind, as Southey has shown in his elaborate description of them. (*History of Brazil*, by Robert Southey, 1810.) In general, the task of civilizing them seemed utterly hopeless. Yet one striking exception to the general experience may be noted. The first settler in Bahía was Diogo Alvarez, a young man of noble family, who was wrecked on the shoals near that port. "Part of the crew," says Southey, "were lost, others were eaten by the natives." Diogo secured the favor of the Indians by recovering things from the wreck. Afterward he led them in battle, using his musket to such good effect that he became their sovereign, and took daughters of the chiefs of the savages to be his wives. "The best families in Bahía," we are told, "trace their origin to him."

By the middle of the 16th century the captaincies of those men whose names have been mentioned, and still other adventurers, were scattered along the coast from the mouth of the Amazon to the mouth of the Rio de la Plata. The great mineral

wealth of the country had not been discovered at that time, and the settlements were chiefly devoted to the cultivation of sugar. What with savages surrounding these widely separated posts; Spaniards threatening them from the rear (the Spanish troops then holding the regions afterward to be known as Paraguay and Argentina); and the French from time to time attempting to establish themselves on the coast; it was found necessary to provide for the common defense by concentrating the Portuguese power in the hands of a governor-general. The feudatories had to submit to the revocation of some of their privileges, though they remained on the soil which they owned.

The first governor-general was Trome da Sousa, and his capital was Bahía. In 1549 he was reinforced by a fleet of six vessels with 320 soldiers and officials, 400 convicts, 300 free colonists, and 6 Jesuits. At different times wards of the Crown, female orphans of good family, were sent out, provided with portions from the royal estates, and given to the provincial officers in marriage. The establishment of the College of São Paulo in Piratininga followed hard upon the arrival of the first bishop of Brazil in 1552, and of a number of Jesuits in 1553. Avowed friends and protectors of the natives, these members of the Society of Jesus took upon themselves the pioneers' task, and their college became a centre of influence. Intrusive French settlers at Rio de Janeiro were driven out by the governor, and a Portuguese colony was founded there in 1567. But the progress of Brazil, in so far as it was dependent upon the aid of the mother country, was checked, if not entirely arrested, during a period of 60 years. Philip II. of Spain acquired the crown of Portugal in 1578–80, and the union of the two countries — or rather, the subordination of the weaker nation — continued until 1640. Brazil received little attention during all these years, in part because she was identified with Portugal, but still more for the reason that her inferiority to the Spanish possessions in mineral wealth was taken for granted. The transfer of allegiance invited attack by English fleets. In 1586 Witherington sacked Bahía; Cavendish, in 1591, burned San Vicente; Lancaster, in 1595, captured Olinda. A futile attempt to found a permanent colony was made by the French (1612–18), and the Dutch dispatched a fleet against Bahía in 1624.

### The Dutch in Brazil

Most important were the efforts made at this time by an association of Dutch merchants, the famous Dutch West India Co., which commissioned Count Maurice of Nassau to promote the

interests of his countrymen in South America. The enormous power of this corporate company, which, as Bancroft says, was "given leave to appropriate continents," and, when "invested with a boundless liberty of choice, culled the rich territories of Guiana, Brazil, and New Netherland," was exerted in a large part of the region lying between Maranhão and Bahía. After the revolution of 1640, Brazil was, indeed, no longer Spanish, but the new Portuguese executive of the house of Bragança was too poor and weak to adopt such vigorous measures as were required. Accordingly a suggestion offered by a native of Madeira named Vieyra



General View of Rio de Janeiro, Brazil
(Courtesy of the Pan American Union)

was welcomed, inasmuch as this plan relieved the government of the obligation to fight the Dutch West India Co. Vieyra proposed the establishment of a commercial company at Lisbon similar to that which had its headquarters at Amsterdam. The Brazil Co. of Portugal was organized, and in 1649 sent out its first fleet. After five years of severe fighting, the Portuguese merchants overcame the Dutch merchants.

For half a century Brazil was permitted to remain at peace. In 1710, however, a French squadron under Duclerc attacked Rio de Janeiro and suffered defeat. On 12 September of the following year Admiral Duguay Trouin arrived off Rio with a new fleet and 6,000 men. The governor was compelled to capitulate and to pay a large sum of money. A great change in the industrial conditions of the southern districts was produced by the discovery of

diamonds at this time (1710–30), and by the rush to the gold regions opened up by the enterprise of the colonists of São Paulo — a hardy race, doubtless with a large admixture of Indian blood, much addicted to adventurous raids into the interior. Their explorations extended westward into Paraguay and northward into Minas, Goyaz, and Cuyabá in the state of Matto Grosso. Gold was discovered in the regions last mentioned; by the beginning of the 18th century there were five towns of considerable importance in Minas Geraes; and that state is now, as we shall see, one of the most populous of all. Laborers were withdrawn from the sugar industry by the superior attractions of mining, and Brazil lost her leading position as a sugar-producing country. The conspiracy of Minas in 1789 was the first sympathetic movement in Brazil occasioned by the Revolutionary War in North America. Inspired by the success of the English colonies in achieving independence, the inhabitants of Minas formed a project to throw off the Portuguese yoke, but the plot failed, the leader was hanged, and the conspirators were banished to Africa, from which continent slaves were being imported in large numbers. It was an unprofitable exchange for America. The French Revolution, among its extraordinary consequences, promoted Brazil from the humble position of a colony to be the seat of government of the Portuguese power, and the only American monarchy. In 1807 the threat of the invasion of Portugal by Napoleon sent the prince regent, afterward King John or Dom João VI, across the ocean (29 November). With him went the queen, the royal family, the great officers of state, and members of the nobility. He created many new offices, and otherwise made the machinery of government in Brazil much more elaborate than it had ever been; and, to meet the increased expenses that these changes involved, at first imposed new taxes, and afterward, by debasing the money standard, inaugurated the long period of financial error that has impeded the advancement of the country. On the other hand, Brazilian ports were declared open to the commerce of all nations at peace with Portugal. Thus John favored industrial development and injured it at the same time. Numbers of artisans and manufacturers from England, Germany, France, and Sweden came to take advantage of the new opportunity. In 1816 the School of Fine Arts was founded by French painters and sculptors. The occupation of Portugal by French troops was offset in the new world by the incorporation of French Guiana with Brazil (1809); but the treaty of Vienna in 1815 restored Guiana to France. On 16 Jan. 1815, the title of kingdom was conferred upon Brazil; and an important extension

of the domain of this unique American monarchy was effected six years afterward, when Uruguay was united with it under the title of the Cisplatine State. But this union, like the occupation of French Guiana, was destined to be temporary, owing to the policy adopted by Argentina. See ARGENTINA.

## Independence Proclaimed

The general movement in favor of independence that transformed the Spanish colonies north, south, and west of Brazil into republics, produced conspiracies and plots in Bahía and Pernambuco. Troops were brought out from Portugal to restrain every violent manifestation of the republican spirit; meanwhile, however, in Portugal itself the revolution of 1820 had led to a modification of the old autocratic system, and the forces from that country, openly sympathizing with the aspirations of the Brazilian people, compelled King John to yield. The latter withdrew from America soon afterward (26 April 1821), leaving his son, Dom Pedro, to work out the problem in Brazil as best he might. The attitude of the Cortes of Portugal in this crisis was exceedingly unwise: instead of offering concessions, it directed the dissolution of the central government, and ordered Dom Pedro to return to Portugal. Assured of the support of the people of Rio de Janeiro and São Paulo, who requested him to disobey this command, Dom Pedro proclaimed the independence of Brazil, 7 Sept. 1822. He became constitutional emperor the following month. In the hostilities which ensued the Brazilians were so successful that independence was assured before the end of 1823. The constitution of the empire was adopted on 25 March 1824. But a peculiar situation in the ruling family remained to be disposed of. Since October 1822, Dom Pedro had been emperor of Brazil, while his father was king of Portugal. The dramatic climax occurred 25 Aug. 1825, when a treaty was signed in London by virtue of which King John first assumed the title of emperor of Brazil and then immediately abdicated in favor of his son. As the popularity of Dom Pedro I was due to the disposition he showed at first to accede to the wishes of the liberals, so it is necessary to ascribe his loss of popularity in the years 1826–31 to his unwillingness to trust the people more and more, as their demand for participation in the government steadily increased. The statement found in some recent histories, to the effect that Pedro I was a brutal tyrant, whose reign ended in public disgrace, is positively incorrect, and inculcates false views of this entire period. It was his tact that

saved the monarchy in 1821; but the growth of republicanism in the next decade was much more rapid among the people than at his court, and finally the breach became so wide that no course was left to him but to surrender his crown before the succession of his son, the second Pedro, should be disputed, and to take ship for Lisbon, where it had become a duty to defend the claim of his daughter, Maria II, to the throne of Portugal. At any time after 1810 outrageous tyranny on the part of Portuguese rulers would have thrown Brazil into the advancing column of revolutionary



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**The Main Street of São Paulo, Brazil**

states. The significant facts are, that Pedro I was able to postpone the inevitable change for 10 years, and that Pedro II (whose majority was proclaimed 23 July 1840) succeeded in maintaining the monarchical form in America until 15 Nov. 1889. The regency by which the affairs of Brazil were administered (1831–40) was much like a republican government, especially after 1834. Probably it would have been impossible to revert to a monarchy if the weakness and misconduct of the regents had not brought discredit upon everything savoring of democracy.

The suppression of the revolution of 1848; discontinuance of the importation of slaves, in 1853; and the creditable part taken by Brazil in thwarting the ambitious designs of the Argentine dictator, Rosas (See ARGENTINA) — these are the chief events before 1855. In that year a Brazilian squadron was sent to settle a dispute with Paraguay as to the right of way for Brazilian vessels on the Paraná River, which, rising in Brazil, flowing beside

Paraguay, and finally through the territory of Argentina, should be open to the commerce of all three nations equally. The warships failed to accomplish the desired result, and for a decade vexatious restrictions were placed upon the vessels of Brazil, Argentina, and the United States. In 1865 an outrage by Señor Lopez, the dictator of Paraguay, brought on a war in which Brazil, Argentina, and Uruguay were allied against the offending country. (See PARAGUAY). This bitter struggle, protracted until 1870, cost Brazil the lives of many thousands of her citizens, and in money about $300,000,000. In the year following the restoration of peace a law was enacted for the abolition of the institution of slavery, the growth of which had been checked, as we have seen, in 1853. It was provided that thenceforth every child born of slave parents should be free.

### Brazil a Republic

A bloodless revolution terminated the reign of Dom Pedro II, and the Federal republic was proclaimed, 15 Nov. 1889. A provisional government, instituted for this purpose, published (24 Feb. 1891) the constitution of "The United States of Brazil," resembling that of the United States of America in nearly every respect, though Brazilian senators serve for nine years, like those of Argentina, while the president's term of office is but four years. Marshal Deodora da Fonseca, head of the provisional government, was confirmed in the presidency by the constitutional congress, and Gen. Floriano Peixotto was elected vice-president. The next president (15 Nov. 1894) was Prudente de Moraes Barros. The third president, Dr. Manoel Ferraz de Campos Salles, was elected for the term beginning 15 Nov. 1898. His successor, Señor Francisco de Paula Rodrigues Alves, inaugurated 15 Nov. 1902, made a statement of the national policy in his inaugural address which may be summarized as follows: A good financial condition in the republic is of prime importance; but scarcely less essential are reforms in the laws applicable to civil suits and elections. Agricultural and commercial conditions must be improved, and endeavors made to attract immigration and capital. Modern systems of sanitation must be installed at the ports, including Rio de Janeiro. The augmentation of the army and navy may be undertaken when the condition of the treasury warrants such expenditures.

It will be readily understood that the circumstances to which reference has been made in this sketch — such as the issuance of

large amounts of paper currency, which it was formerly the fashion to call irredeemable; the change from the basis of slave to free labor; the overthrow of the monarchy; foreign wars, and rebellions in one state after another — have combined to depress Brazilian credit and retard industrial development. To these unfavorable influences must be added the decline in the prices of coffee, Brazil's staple product, and of sugar, her chief reliance in times past. On the other hand there is observable a tendency toward greater stability in the national policy; a large amount of paper money was, before 1903, called in and destroyed; and interest has been shown recently in efforts to develop the enormous natural resources of the country and to maintain standards of health in the chief ports. In November 1903 the dispute with Bolivia in regard to the Acré region was terminated, Bolivia surrendering her claims to 73,750 square miles on or near the Acré River in return for 886 square miles on the affluents of the Madeira and Abuna, 335 square miles on the left bank of the Paraguay, and the sum of $10,000,000 which Bolivia has expended with excellent results for the construction of railways.

Brazil, by virtue of the same agreement (Treaty of Petropolis, Article 7), was placed under an obligation which has been scrupulously discharged, namely, " to build on Brazilian territory, by herself or by a private company, a railway " which, in brief, supplies an outlet to the Madeira and Amazon for Bolivian products. In June 1914 the dispute with Great Britain over the frontier of British Guiana was ended by the award of the arbitrator, the King of Italy, who gave 14,000 square miles to Brazil and about 19,000 square miles to the other contestant. In 1906 Dr. Alfonso Penna was elected President. An International Conference was held at Rio de Janeiro 23 July to 27 Aug. 1907. The occasion was made memorable by the formal visit of Elihu Root, Secretary of State of the United States. President Penna decreed, 13 Jan. 1908, a reduction of the tariff duties on several American products, in return for the favor shown by the United States to Brazilian coffee. An arrangement was made with the Imperial Emigration Company of Tokio for bringing over 3,000 Japanese colonists within two years at the expense of Brazil. (See article Labor.) President Penna died 14 June 1909 and was succeeded by Vice-President Peçanha. Marshal Hermes da Fonseca was elected to the presidency 1 March 1910. On 22 November the crews of the warships *Minas Geraes* and *São Paulo* mutinied in the harbor of Rio. These vessels were surrendered to the government 27 November. Baron Rio Branco died in 1912, and was succeeded as foreign

minister by General Lauro Müller. In 1913 relations between the United States and Brazil were strained in consequence of the action filed by the administration of the former country against the Brazilian committee in charge of the valorization of coffee. After the dismissal of the valorization suit, Brazil restored the preferential tariff on American products, which had been suspended during the dispute, and General Lauro Müller returned Secretary Root's visit. In 1914 Vice-President Wenceslão Braz was elected President. In May 1915 a treaty of alliance was signed at Buenos Aires by representatives of Brazil, Argentina, and Chile. Three months later Brazil was associated with the United States, Chile, Argentina, Uruguay, Bolivia, and Guatemala in efforts to restore law and order in Mexico. In 1916 Brazil continued to feel, more than other Latin American countries, the extremely injurious effect of the scarcity of ships, withdrawal of credits, soaring prices and declining rate of exchange which the European war occasioned. This subject is examined in its proper connection and relations in the articles: Commerce, Commerce with the United States, and Banking and Finance.

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## GOVERNMENT OF BRAZIL

The system of government established after the bloodless revolution of 1889, and under the Constitution of 1891, has already been mentioned and in part characterized (See HISTORY OF BRAZIL). The official title of the nation, The United States of Brazil (Estados-Unidos do Brazil), conveys at a glance the correct impression that we are dealing with a Federal rather than a centralized Republic; but it is well to repeat here the usual characterization, namely, that its Constitution resembles that of the United States of America, in order to make opportunity for saying that the rights of the States of Brazil are emphasized, probably somewhat over-emphasized; and a situation has been created similar to that which would be found in the United States of America if the question of broad or strict construction of the Constitution, that dividing line between political parties, had been determined chiefly in favor of the States' Rights or strict construction party. We shall outline the Federal executive, legislative, and judicial branches, and the organization of the States, before examining more closely the all-important subject of governmental tendencies and problems.

President and Vice-President are elected by direct vote for a term of four years, and may not be reëlected for the term immediately following. President's salary, 120,000 milreis (or about $38,000). He is assisted by a cabinet of seven ministers whom he appoints. The ministries or departments are: of Justice Interior and Public Instruction, Foreign Relations, the Navy, War, Communications and Public Works, Finance, and of Agriculture,

Industry, and Commerce. The legislative power is vested in the National Congress, which embraces the Senate (63 members, three for each State and three for the Federal District, elected by district vote for nine-year terms: membership renewed by thirds every three years) and the Chamber of Deputies (elected in the same manner as the senators, but for terms of only three years, and in the proportion of one for every 70,000 inhabitants — no state, however, being represented by less than four deputies). Congress meets annually on 3 May for four months, but may be prorogued or called in extra session by the President. The franchise extends to all male citizens over 21 years of age, duly enrolled, except beggars, illiterates, soldiers actually serving, and members of monastic orders under vows of obedience. The President must be a native of Brazil over 35 years of age. In legislation relating to taxes, the initiative belongs to the Chamber of Deputies. There is a Supreme Federal Court of Justice at Rio de Janeiro, and a Federal judge in each State. The former consists of 15 justices, appointed by the President with the advice and consent of the Senate; the Federal judges are appointed upon the Supreme Court's recommendation — justices and judges alike holding office for life. There are also, for purely local or unimportant matters, municipal magistrates and justices of the peace who are elected for four years.

State governments resemble the Federal in having separate administrative, legislative, and judicial branches; and the design has been to prevent loss of independence by any one of these, or the subordination of all to the national executive. The latter, accordingly, has not the extensive powers of appointment and control which are exercised by Presidents of some of the more centralized South American republics. Governors of States, as well as members of State Legislatures, hold elective offices, and to the former is assigned the appointment of magistrates who are not removable from office save by judicial sentence. Each State is governed in accordance with its own Constitution and laws. These must, of course, never conflict with the constitutional principles of the Union; and it is provided that, in case of such infringement by State authorities, the Federal government shall, by force of arms if necessary, intervene to control the offending State. But not otherwise is intervention conceded as a Federal right. The Federal District is administered by a council elected by qualified voters, and the municipal executive authority there is exercised by a Prefect appointed for four years by the President of the Republic.

The tendencies to which we referred receive considerate treatment at the hands of M. Denis (*Le Brésil*, etc.). "The States — the one-time Provinces" he writes, "enjoy a very large degree of independence. Each of them forms an actual nation, with its elected authorities and its autonomous administration." He finds that individual States "freely negotiate contracts with foreign companies or syndicates for the execution of public works or raising loans. They have their systems of justice, their systems of public education. Some of them have representatives in Europe who play the part almost of diplomatists; who have been known to hold conferences and to sign conventions without the intervention of any Federal authority. The Constitution has afforded them an important source of revenue in allowing them to establish export duties. I believe there is no State budget which does not place export duties in the first rank among its receipts. The export duty on coffee swells the budget of São Paulo, as the export duty on maté swells that of Paraná. Thus Brazil has a double line of custom-houses, one facing outwards, one inwards. The duties collected upon foreign merchandise entering the country are a Federal matter, and depend upon the central government; but the export duties are State property. In equilibrium with the States the Constitution erects the Federal government." Now, the Union (if we adopt the shorter name, preferred by the people themselves), by the regulation of monetary questions and by the settlement of the customs tariff, exercises a deeply felt influence over the national life; and although at first very narrowly confined to specified functions, a tendency has become manifest to exalt its authority and dignity. "In the first place the Union acquired its own territory — the Territory of Acré, which was ceded by Bolivia (q.v.) by the treaty of Petropolis. This territory is a considerable portion of the Amazonian plain, and one of the chief rubber-producing countries. Instead of making a new State of Acré, it has been kept by the Union as a kind of dower. The Union collects the export duties on rubber, which duties, except in this Federal Territory, go to the treasuries of the States. The revenues of Acré were sufficient in three years to pay off the indemnity to Bolivia. To-day they are added to the other sources of Federal revenue, and form a notable addition to the Union's budget." An indication that the Union has begun to "find itself" is this: it decided to intervene, or to impose its will upon the more shiftless States, in respect to education and the colonization of immigrants. Viscount James Bryce (see *Bibliography*) writes that "the immense size of the country and

its want of homogeneity suggested a federal system, the basis for which already existed in the legislative assemblies of the provinces. Since then Brazil has had its full share of armed risings and civil wars. At first the States were allowed the full exercise of the large functions which the constitution allotted to them, including the raising of revenue by duties on exports and the maintenance of a police force which in some States was undistinguishable from an army. Presently attempts were made to draw the reins tighter, and these attempts have continued till now." His observations and impressions in this field are to the effect that the national government "has latterly endeavoured to exert over the States a greater control than some of them seem willing to accept. Nor is this the only difficulty. While some of the States, and especially the southern, have an intelligent and energetic population, others remain far behind, their citizens too ignorant and lazy, or too unstable and emotional, to be fit for self-government. Universal suffrage in districts where the majority of the voters are illiterate persons of colour suggests, if it does not justify, extra-legal methods of handling elections. One illegality breeds another, and there is perpetuated a distrust of authority and a resort to violence." In many regions it is quite true that the Brazilian Constitution, as M. Georges Clémenceau writes in his *South America of To-day*, "enjoys a chiefly theoretic authority." Viscount James Bryce continues: "In the Brazilian politics of to-day there are many factions, but no organized parties nor any definite principles or policies advocated by any group or groups of men. Federal issues are crossed and warped by State issues, State issues confused by Federal issues, and both sets of issues turn rather on persons than on general doctrines or specific practical proposals. One source of dissension is, however, absent — that struggle of the church and clericalism against the principles of religious equality which has distracted the Spanish-American republics. In Brazil the separation of Church and State is complete, and though the diplomatic corps enjoys the presence of a papal Nuncio as one of its members, this adherence to tradition has no present political significance. The absence or the fluidity of parties makes the executive stronger than the legislature both in National and State politics. There are many men of talent, especially oratorical talent, and many men of force, but not enough who show constructive power and the grasp of mind needed to handle the enormous economic problems which a country so vast, so rich, and so various presents." He concludes, however, that it is too soon to be despondent, inasmuch as the country has

been free from the taint of slavery only since 1888, and has been a republic only since 1891. Consult Bryce, J., *South America* (New York 1912). See *Bibliographies* under History and other titles in the Brazilian series.

## EDUCATION AND RELIGION IN BRAZIL

The central government has been hitherto prevented by the constitutional restrictions mentioned above from making education compulsory in the States; but some of the latter have themselves taken this step, and wherever the government can offer it at all and make it free, education *is* free. Distributed unevenly throughout the States are more than 13,000 schools. Brazil has no university. The excellent schools of law, medicine, and engineering in several of the large cities do not supply this deficiency. But all advocates of the establishment of a national university have encountered the opposition of leaders who represent the States' Rights doctrine. The founding and maintenance of a great national university, such as the country needs and would appreciate, are steps toward centralization which State politicians are wholly unprepared to take. The Union, however, occasionally extends pecuniary assistance to States, municipalities, or individuals by way of co-operation in the maintenance of industrial schools, or colleges of agriculture. São Paulo leads among the States in educational progress: its Faculty of Law and Polytechnic College are both praiseworthy; and the range of scientific courses carried on at its museum is striking. However, M. Denis says that this State does little for secondary education. "The State of São Paulo contains three public secondary schools: one in the capital, one at Campinas, and one at Ribeiraon Preto; but the pupils are few in number. The fact is that this State by no means has the monopoly of secondary education. There is a host of private schools, many of which are kept by religious orders. The private schools are for the most part boarding-schools"—as a matter of fact, many of them are situated in the country. "The education given in such schools is very unequal and usually second-rate. Not only in São Paulo but throughout Brazil the question of secondary education is to-day one of extreme gravity. It is to primary education that the State of São Paulo devotes its resources. The budget appropriation is liberal, amounting to $2,000,000, and some of the schools have the appearance of

palaces." Mackenzie College at São Paulo has an excellent standing among foreign institutions which supplement by their work the State and National systems of instruction; and there are many foreign schools in the Republic. The very great educational value of free libraries has not been overlooked: there are, indeed, many small collections of books; and the National Library in Rio de Janeiro, containing certainly several hundred thousand items — perhaps nearly half of a million manuscripts and printed works — is the most interesting large collection that the writer has visited in any part of Latin America. Finally, as a field for educational endeavors, Brazil has elements of exceptional promise. "The Brazilians, who never forget that they were for a time, during the French invasion of Portugal, their own mother country, and head of the whole Portuguese people, cherish their national literary traditions with more warmth than do the Spaniards of the New World, and produce quite as much in the way of poetry and *belles lettres* as do the writers of Portugal. They have a quick susceptibility to ideas, like that of Frenchmen or Russians." Such is the tribute in Bryce's *South America;* but it is promptly qualified as follows: "One can hardly be surprised that learning and the abstract side of natural science are undervalued in a country which has no university, nothing more than faculties for teaching the practical subjects of law, medicine, engineering, and agriculture." In view of the enormous mass and weight of practical difficulties and problems which we have indicated in preceding pages, we think that a taste for and interest in branches of knowledge not directly practical will be extended, not very rapidly, but little by little, as the problems of an oppressively and intensely practical nature are gradually solved.

Steps taken in recent years are (1) The decree of 5 April 1911, which conferred upon a Federal Board of Education authority to establish primary schools in the various States; (2) The inauguration, on 4 July 1913 of a superior school of agriculture and veterinary medicine at Rio de Janeiro; and (3) The decree of 15 April 1914, which created a class of practical schools of agriculture and which was followed by other decrees establishing preparatory schools of agriculture and experiment stations. Thus legal provision was made for a great system of agricultural education under the control of the central government. In 10 different, widely separated localities, this pacific invasion of the states by a movement unquestionably beneficial, though also unquestionably in contravention of strict-constructionist theories (see GOVERNMENT) has already taken place.

To the subject of religion we do not give prominence here, because in Brazil it has been, as a matter of fact, subordinated during so long a period that to-day the Church and religion exert little influence upon the thought and conduct of laymen. Colonel Roosevelt writes (*Through the Brazilian Wilderness*) that "the Positivists are a really strong body in Brazil, as they are in France"; and again: "Brazil possesses the same complete liberty in matters religious, spiritual, and intellectual as we do." But of course laymen in Brazil had never, in the manner of the Puritans, adopted an independent (Congregational) form of church government. The latter were free to exercise their own chosen form of worship; the former, when the connection between Church and State was abolished, and absolute equality declared among all forms of religion, quite naturally were freed from the restraints and the inspiration of religion to a very much greater extent. The Church has retained its buildings, properties, and income; religious orders share fully in the general toleration; the Brazilian men as a rule are still nominally — and Brazilian women as a rule are devoutly — Catholics. High officials of the Catholic Church are: The Cardinal, at Rio de Janeiro, archbishops at Bahía, Rio, São Paulo, Pará, and Mariana, and 25 suffragan bishops. Consult *Report of the Commissioner of Education* (Dept. of Interior, Bureau of Education, Vol. 1, Washington 1915), and works by Bryce, Clemenceau, Denis, and others, in which are chapters dealing with present educational conditions. See *Bibliography* under History.

## AGRICULTURE AND FOREST PRODUCTS IN BRAZIL

Coffee, rubber, herva matté, sugar and mandioca receive special mention on account of the importance of these Brazilian products; but the fact is that the southern plateau, in the States of Rio Grande do Sul, Santa Catharina, and Paraná, produces all the cereals and fruits of temperate zones and many of those of the tropics as well. We find here wheat, Indian corn, rye, potatoes, and such vegetables as are grown in the United States; while rice, coffee, oranges, bananas, and pineapples thrive in the lowlands along the coast. In many places grapes are grown, and attention is given in the south to the production of native wines.

## Coffee

The great coffee-producers of the world are the Paulistas — the people of the State of São Paulo. The celebrated *terra roxa* — red earth — in which the coffee-trees flourish especially is found, as the author of *Through South America's Southland* writes, in other parts of the Republic, but the Paulistas were the first to demonstrate its extraordinary value for coffee-culture. "The history of what Linnæus named Coffea Arabica, in its long migrations from the wild forests of Abyssinia and Mozambique to the carefully cultivated *fazendas* of São Paulo, is a most interesting one. It is a far cry from its first restricted use as a drug in the East to its present status as one of the world's most popular beverages; from the time when its production in the West was prohibited, and gave rise to as absurd conflicts as attended the introduction of tobacco into Europe. . . . It is scarcely 80 years since the production of coffee in the State of São Paulo received its first impetus. Before that time it was rarely found outside of a drug store. But after that the development of the industry was so rapid and so extraordinary in its proportions that it stands forth as one of the marvels of economic history." Of course the circumstance that in São Paulo the coffee-trees do not require shading (that is, are not, as in Porto Rico, Mexico, etc., grown and cultivated under the protecting shade of larger trees) contributes to this "marvellous" success. "In 1851 the amount of coffee exported from São Paulo was something more than 100,000 sacks of 132 pounds each. Thenceforth the export of this staple increased with amazing rapidity until, in 1896-97, the amount produced reached the stupendous figure of more than 15,000,000 sacks. This, with what was collected in other parts of the Republic, gave Brazil 85 per cent of the world's total production. That year the state of São Paulo produced fully three times as much coffee as all the other States of Brazil combined. But this enormous crop was more than the market could bear. The supply had gone beyond the demand. The price of coffee fell until it threatened coffee-growers and the State itself with financial disaster. But the shrewd Paulistas were equal to the emergency. For it was then, in order to support the market and to protect the coffee industry, that they had recourse to that much criticized measure known as coffee valorization. The operation seemed like a gambler's risk, but there was so much at stake that the government of São Paulo did not hesitate to act. This measure, which achieved the end in view, was only another illustration of that

quick initiative and sturdiness of character which have always distinguished the Paulistas." It is also to be recalled that they began to direct their surplus energy into other channels, cultivating rice, cotton, etc., and planting such rubber-producing trees as manicoba and mangabeira; establishing new industries and devoting more attention to manufactures. The average annual coffee crop of Brazil is about 12,000,000 sacks of 132 pounds each. In 1915 the estimated produce was 9,497,553 sacks.

### Cattle Raising

Cattle-raising in São Paulo is commented upon by Mr. Ling, in *The Americas*, November 1915: "From the time of leaving São Paulo city we passed through a gently rolling country; the characteristics are pastoral and agricultural. In the pastoral section fine bunches of native cattle and of cross-breeds between native and Hereford were seen in such quantities as to give the impression that the number far exceeds the generally accepted statement. Statistics show that the number of cattle, horses, sheep, etc., has more than doubled in the past ten years." Mr. Ling was informed by the large *fazenda* managers that increased interest was being given to cattle-raising. In 1913 there were in Brazil 30,705,080 cattle, 18,399,000 swine, 10,653,000 sheep, 7,289,050 horses, and 3,208,000 mules.

### Rubber

Among forest-products, the first to be mentioned is rubber,—with respect to which the recent publication of the Pan American Union (see *Bibliography:* Brazil, etc.) has this to say: "*Indiа* rubber, as it is generally called in textbooks and official reports, is a native of Brazil and grows wild there. Although efforts at cultivation have been successful with the seed in other countries, and even in Brazil, by far the greater part of the rubber exported from the Republic is gathered from the forests of the northern interior of the country; no systematic preparation of the ground has ever been necessary, and the entire care of the rubber gatherers has been given only to obtaining the juice from the rubber trees and getting it to market. This essential factor of modern industrial life was utilized first by the natives of America, and they found some place for it in their domestic economy as a waterproof covering for clothing, boats, and their kind of bottles. Caucho, or, in the aboriginal, cahuchu, from which comes the corruption caoutchouc, is the earliest word applied to rubber. The

Brazilian speaks of borracha, and this refers particularly to the product of the hevea, the rubber tree par excellence. It is indigenous to the region of the river Amazon and in the tributary areas of Peru, Bolivia, Ecuador, Colombia, and Venezuela. Hevea is a large tree, of slow growth and long life. It has been found 12 feet in circumference. It requires low-lying, rich, deep soil, and abundant moisture. It grows wild in Brazil, but not in clumps, being found rather scattered through the tropical forest, but it is well adapted to cultivation and has been planted in the East Indian Islands with success. Manihot produces the Ceará rubber of commerce, but its habitat is a high, stony, and arid country. This also is native to Brazil, but in the region south of the Amazon. [Castilloa, next to Hevea the best known rubber producer, has its principal range in Central America and southern Mexico]. Other trees, shrubs, and vines (lianas) yield rubber." The writer at this point adds that rubber is not the sap but the "cream from the juice, the milk or latex of these trees, shrubs, and vines." In 1915 the rubber crop was 36,750 tons, and about 37,000 tons in 1916. The total exports of crude rubber from Pará, Manaos and Itacoatiara during 1916 amounted to 72,836,393 pounds. Shipments to the United States aggregated 48,874,578 pounds and to Europe 23,961,815 pounds.

## Maté

Another forest product is the maté which to Brazilians is known as *herva matté* or *maté*, to other South Americans as *yerba* or *yerba maté*, and to foreigners as Brazil or Paraguay tea. The chief maté-producing state, that of Paraná, adjoins the great coffee producing state, São Paulo, and exports many million pounds of this Brazilian "tea" annually. The maté tree (in appearance not unlike a small evergreen oak or ilex with a heavy and fleshy leaf) grows freely in the forest, entirely without cultivation; and in the forest the leaves undergo, as soon as they are plucked, a first preparation which both diminishes their weight before transportation and also keeps them from fermenting. They are dried at a fire, and then packed in sacks which are sent to the mills at Curitiba which reduce the leaves to powder and separate the various qualities. Aromatic properties retained in the dried and powdered leaves are extracted by means of infusion. As a stimulating and wholesome beverage habitually used throughout a large part — especially the southern part — of the continent, maté might well be called, not by the competing names Brazilian

or Paraguayan, but more simply the South American tea. The exportation of this South American tea, then, is to the State of Paraná what the exportation of coffee is to the vastly more important neighbor-State: the basis, practically, of economic achievement. In 1915 yerba maté was exported to the extent of 75,885 metric tons.

### Sugar

But the basis of economic achievement in Brazil was formerly the exportation of a product the cultivation of which, on a large scale, was dependent upon slave-labor. Sugar, during a long period, held the position in the country's economic life now occupied by coffee, rubber, and South American tea. At the present time, the sugar-cane, beside being grown in the chief sugar centres, is indeed a staple crop, commonly used for the production of an alcohol, or sometimes the crude variety of sugar called *rapa dura*. We no longer find sugar in the first rank of exports, however; and a study of its decline brings to our attention the most interesting phase of the story of the manumission of slaves. Denis reminds us that the planting of sugar created, as early as the 17th century, not only a long-enduring industry but also long-enduring wealth; and all over Brazil the cultivation of the sugar-cane was connected with slave-labor. As early as 1875 the decay of the sugar industry had become manifest in all parts of the country, and a severe drought hastened its downfall. Naturally there was a rapid fall in the market value of slaves. "At the same time the provinces of the south, which were then nearing the height of their development, could not obtain sufficient labor, and, while recruiting the first white immigrants, they made a last effort to renew their staff of slaves. There was thus a heavy exportation of slaves from the north to the south." Now, "as has often happened, the institution of slavery, made less harsh by custom, did not arouse public opinion; but the spectacle of a commerce in slaves did violently arouse it. The departure of these human cargoes for the south was regarded with indignation." The abolitionists succeeded in rendering such shipments impossible; and then the value of the slaves, for whom there was no longer adequate employment, decreased rapidly. "When their enfranchisement was determined upon it was possible to buy them out at reduced prices; less on account of the violent propaganda of the abolitionists than because [so many of] the sugar plantations had disappeared." In 1915, 59,074 metric tons (2,204.6 lbs.) of sugar were exported from Brazil.

### Other Important Crops

The cultivation of cotton, cacao, and tobacco may be said to increase very gradually, in view of the extent of the country and the excellence of the products. The wool crop exported reached 4,198,630 pounds in 1912 and was valued at $571,276. In 1915 it fell to 997,630 pounds valued at $193,065. Cotton is grown principally in Pernambuco, Parahyba, Rio Grande do Norte, Ceará, Alagoas, Maranhao, Sergipe, São Paulo, and Minas Geraes. The average cotton crop in recent years is close to 1,000,000 bales of 176 pounds each. Exports of cotton have decreased as the home consumption has increased. (See COTTON INDUSTRY, p. 694.) Mandioca, or farhina de mandioca, primarily the food of aboriginal tribes, has been to such an extent cultivated that mandioca flour has become actually the staple food of Brazilians. In the Pan American Union's *Brazil*, mentioned above, we read: "It is a shrub about four feet high which has been induced to change its root into a veritable tuber. In its raw state mandioca is an irritant, not infrequently a deadly poison, but properly prepared it becomes a richly nutritive food, esteemed by Brazilians high and low, and forms a staple for bread throughout the country. All Brazil grows the plant, but it is used chiefly along the littoral and on the lower plateaus. From June to September is the best planting season, the root being gathered eight months to two years afterwards." Great care is exercised in treating the root in such a way that the poisonous starchy contents shall be changed into healthful and edible starch. The natives are most expert in their methods of doing this; and they can not be regarded as procrastinating workers, inasmuch as in the course of a single day — the day on which the tubers are gathered — all the various processes of grating, desiccation, and roasting must be completed.

The question of labor, which affects agriculture and the manufacturing industries alike, will be briefly discussed as we pass from the former subject to the latter. Before leaving the subject of agriculture, however, it is absolutely necessary to say that Brazil's achievements, commendable though they seem in certain respects, are still almost as nothing compared with agricultural possibilities in a region so vast and singularly favored by nature. The Brazilians realize and repentantly admit their long continued neglect of wholly exceptional opportunities; and in 1916 the people showed unmistakably that they had been stimulated to renewed efforts by the withdrawal of food supplies formerly received from Europe and by other war conditions.

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## MANUFACTURING AND MINING INDUSTRIES

### Labor

Labor problems, with good reason and in a very special sense, claim the attention of all those who study intelligently the present conditions of Brazilian agriculture and manufacturing industries. The government, in order to encourage immigration from Europe, guarantees free passage and a homestead to bona fide settlers, the ultimate aim being to build up a class of peasant proprietors whose services may, at least in part, replace the migrating hordes of landless workingmen. Summarizing the supply at present, *The Americas* (Vol. 1, No. 10) says that in the northern States of Amazonas, Pará, Maranhão, Pianhy, Rio Grande do Norte, Parahyba, Pernambuco, Alagôas, and parts of Matto Grosso and Goyaz, a very large proportion of the food must be imported from abroad or brought up from the southern States, paying high freight rates: the cost of living is therefore high and labor correspondingly expensive. In the central States labor is more abundant, the cost of living is not so high, and naturally there is a lower rate of wages. In the three southernmost States the lowest rate of wages prevails; labor there is both plentiful and satisfactory; a large part of the working class is of Italian or German origin. In Brazil, as in Latin America generally (and there are very few exceptions), skilled labor, workmen of experience in mechanical industries, are scarce. "New industries are nearly always started by means of imported labor under contract, the foreign foreman having to train men for the work which they are expected to do. This is noticeably the case in the textile industry, which to the present day is largely manned by English or other contracted foremen and headweavers. The lighter work of these factories is carried on by women to a large extent." For the erection of large machinery "it has always been the practice for the contractors to send their own engineers and skilled

mechanics; in most cases the buyer contracts with the machinery-maker for the permanent service of one or more competent mechanics." Graduates of those public institutions in Rio de Janeiro, São Paulo, and other large Brazilian cities in which the skilled trades are taught have seldom been appointed to the highest positions in the factories. "The Brazilian agricultural laborer is generally the descendant of slaves or an Indian half-breed, and although ignorant is a fairly good worker." Our own impression of the disposition and natural capacity of the Brazilian laboring classes is favorable; but within the limits of such natural capacity we must not place the ability to control machinery, and in general the mechanical gift or talent.

## Manufacturing Industries

The restrictions indicated in the foregoing paragraph are, to some extent, offset by the determined efforts of national and state governments, with the co-operation of foreign investors. Resultant achievements, although actually small for a land so great and naturally so rich, have nevertheless attained proportions which surprise visitors from the north. It is already true that the manufacturing industries of the country as a whole are varied and constantly increasing; that every city of importance in Brazil has its manufacturing plant of one kind or another. It is only 20 years since the first textile mill was started. That industry has increased remarkably in the two decades, owing to improvement in machinery and to new transportation facilities which bring the mills, the cotton-fields, and the consumers much closer together. "In most of the large cities the necessaries of domestic life are made in factories, and foundries for simple metalwork exist, but, as a rule, complicated machinery, preserved foods, and the so-called luxuries are still imported. The textile industry is perhaps making greater progress than any other. Five of the larger cotton mills in the Federal District employ 8,000 operatives and have an output of over 80,000,000 yards. Another mill employs 1,500 operatives and utilizes 1,500 horsepower. Four mills in Petropolis manufacture an average of 18,000,000 to 19,000,000 yards, while 24 mills in São Paulo produce 83,000,000 to 84,000,000 yards. In the district of Rio de Janeiro the establishment of new, and the enlargement of existing factories has caused the Rio de Janeiro Tramway, Light and Power Company to enlarge its plant from 50,000 to 80,000 horsepower to meet the increasing demand."

(Pan American Union, *Brazil: General Descriptive Data*, Washington 1915). And further, "São Paulo is to be compared to Rio de Janeiro in industrial importance. In addition to the power plant of the São Paulo Tramway, Light and Power Company at Parahyba, which has a capacity of 32,000 horsepower, a new plant is being constructed by the company at Sorocabo, for the supply of additional power to the city of São Paulo and neighboring cities and towns. The capacity of this plant is to be 62,500 horsepower. In the State of Paraná the lumber industry, while still in its infancy, is making rapid progress:" the explanation of this being the use of modern American machinery in the large sawmills which have been erected recently. Consult *Brazilian Year Book* and statistical publications already mentioned.

## Mineral Resources

Brazil's mineral resources have from the first been questioned, doubted. Amerigo Vespucci navigated in the course of his third voyage from 5° below the equator to a region well south of the Tropic of Capricorn, practically from Rio Grande do Norte to Rio Grande do Sul, as the regions are now called. He wrote as follows: "On this coast we saw nothing of value except an infinite number of dye-wood and cassia trees, and those which beget myrrh, and other wonders of nature which cannot be recounted. . . . And seeing that in this land we found nothing whatever of mineral wealth (no trouavamo cosa di minero alcuno) we decided to hasten away." We have shown above (see HISTORY) that better luck in this respect attended the efforts of 18th century explorers; but such thorough exploration and exploitation as took place in the Spanish South American holdings was impossible in the Portuguese; and regions most shrewdly suspected of concealing mineral treasure have remained in a measure to this day Mineral Regions "of Doubt." The best statement of present phases of this question is made by Mr. D. A. Vindin (in Denis's *Brazil*, English version, supplementary chapter), who writes that, although there is official record of the production of gold valued at more than $500,000,000 and of diamonds to the value of many millions; and although Brazil also produces silver, platinum, lead, copper, iron, manganese, mercury, coal, monazite, graphite, and very many varieties of precious stones and rare marbles; nevertheless the mining industry adds very little to the country's wealth just at present. "I have no doubt," he says thoughtfully, "after having made a visit of inquiry and looked up all available information, but that

Brazil will within a few years demand considerable attention from mining men, as there are few countries in which there are greater opportunities for profitable investment. Hitherto very little attention has been given to mining by either the Federal or State governments, with the exception of the State of Minas Geraes, the result being an absence of much-needed mining laws for the guidance of those wishing to engage in mining on business lines. I understand that there is a likelihood of the States waking up to the importance of encouraging the development of their latent mineral wealth. Most of the gold won by the early settlers in Brazil came from the banks of rivers or from near the surface of the soil. The amount of development of reefs at any [considerable] depth has been very slight, and it is this work in the future that promises well. It is the need of capital and the necessity of waiting for returns that disinclines the Brazilians to undertake mining operations: it is consequently to European and American investors that the work will fall. The fact that most of the mining lands are the property of private owners, and that under the Federal and State constitutions all minerals are the property of the freeholders and not liable to any government tax, renders any systematic searching or prospecting for minerals almost of no avail. The owners of these lands are not sympathetic toward mining at the present time; they will not themselves mine, and they will offer no aid to others; in fact, in most cases, mining prospectors would be warned off the ground as trespassers. There appears to be an almost unlimited scope for profitable mining in Minas Geraes, but it is at all times difficult to obtain the right class of men to conduct operations; and in a country like Brazil the success or failure of any mining venture largely depends upon the type of man in charge of affairs. Apart from technical ability, a knowledge of the language and the people and unfailing patience and tact are necessary." The circumstances that in Minas Geraes gold has been mined profitably since 1830, and that Rio Grande do Sul is the scene of recent gold-mining enterprises are mentioned; then the account deals with iron in the following terms: "A number of eminent mining engineers from the United States, Canada, and Europe have visited Brazil in order to examine and report upon the iron deposits of the country, which are considered to be the richest and greatest in the world. The ores are mostly oxides; the carbonates are rare and usually associated with carbonate of calcium." They occur in " practically all that portion of Brazil lying south of 15° S. In Minas the ore is in some cases found in actual mountains, the analyses of which have yielded

extraordinarily high percentages. Coal exists in Santa Catharina and Rio Grande do Sul at various places." Deposits of talc and kaolin are of frequent occurrence in crystalline rocks, which are of wide distribution in Brazil. Some of these, more favorably situated in relation to transportation and markets, are now being worked. Of these the following may be mentioned:

1. Near Rezende, State of Rio de Janeiro, where a pure white talc is produced, requiring little treatment before being available as a cosmetic. 2. Near Lorena, State of São Paulo. 3. Near Santo Amaro, State of São Paulo, not far from the city of São Paulo.

Massive talc, or steatite, occurs in different parts of the country, as near Itaberaba, municipio de Ouro Preto, Varzea near Dores de Boâ Esperança, and near Jacuhy in the western part of Minas Geraes. At these places its principal use is in the manufacture of cooking utensils, which are turned out on the lathe from the solid block of soapstone. Pans and pots of this material are specially prized in Brazil for cooking rice. It also occurs in Ceara and Goyaz.

Classed between common bituminous and the lignite of Germany, Brazilian coal contains ash and impurities (20 per cent) and in specimens we have examined, sulphur. "Reports on different samples show that this coal, when made into briquettes, is little inferior to Cardiff coal in the same form." Since the development of the Kimberley mines in South Africa, diamond-mining in Brazil has received comparatively little attention; nevertheless valuable stones are often found, and "it must be borne in mind that Brazilian diamonds are considered to be of much finer grade than those produced from South Africa." Brazil produces some of the finest specimens of beryl; amethysts and agates are also plentiful. Consult *Brazilian Year Book* (Rio de Janeiro) and Denis, P., *Brazil* (trans. Miall, London 1911). See general *Bibliography* under HISTORY.

## COMMERCE OF BRAZIL

The new civil code of Brazil which went into effect on 1 Jan. 1917 contains numerous provisions favoring certain classes of American business. The situation deserves thorough study. Mr. O. P. Austin, after referring to improved commercial conditions in South America generally in 1915, writes (in *The Americas*, Vol.

II, No. 2) that the improvement was less sharply marked in Brazil than in Argentina "by reason of the fact that prices of the articles which form Brazil's chief exports, coffee and rubber," were lower in 1915 than in 1914. Reports covering the seven months ending with July 1915, showed, as the total value of the exports for those months, $132,800,000 against $149,500,000 in the same months of 1914. Imports for the seven months amounted to but $81,000,000 against $130,000,000 in the corresponding period of 1914, and $199,000,000 in the same months of 1913. "Details of the trade of Brazil, like those of Argentina," Mr. Austin continues, "are more favorable to the United States than to the other countries, especially in imports. The United States is, in fact, the chief country from which the imports show an increase. The total value of imports from the principal countries for the six months' period ending with June 1915, are from Great Britain, $15,375,000 against $25,850,000 in the same months of 1914; from Germany, $1,875,000 against $23,700,000; from France, $3,230,000 against $10,123,000, while from the United States the total for the six months of 1915 was $18,250,000 against $16,300,000 in the corresponding period in 1914. Exports in the six months ending with June, 1915, are to Great Britain, $17,957,000 against $21,500,000 in the same months of last year; to France, $13,180,000 against $11,970,000; to Holland, $11,290,000 against $7,100,000; and to Norway, Sweden, and Denmark, $13,400,000 against $1,400,000. To the United States, the exports of the six months of 1915 are $44,500,000 against $49,500,000." The total value of the foreign commerce of Brazil was, for 1912: $671,038,586 (imports, $308,243,736 and exports $362,794,846); for 1913, $641,593,196 (imports, $326,428,509 and exports, $315,164,687); for 1914, $387,026,439 (imports, $165,556,950 and exports, $221,469,480); and the tendencies of the country's foreign trade when effects of the European war were most keenly felt are seen when we place these figures in immediate connection with those relating to 1915, as given above. The depression and the reasonably prompt reaction are full of interest. We add now observations made during a longer period, namely, ten months, in 1915, which show a large increase in the proportion of Brazilian trade held by the United States:

In 1913, 1914 and 1915, respectively, the United States took 32 per cent, 40 per cent, and 41 per cent (in value) of Brazil's exports. In the same years 16 per cent, 15 per cent, and 29 per cent, respectively, of Brazil's imports were drawn from the United States. Thus, the share of the United States in Brazil's total purchases nearly doubled in 1915.

Official statistics of Brazil's foreign trade for January–September 1916, give the value of the imports during that period as $137,858,200, contrasted with $106,683,400 for the first nine months of 1915 and $149,542,675 during the first nine months of 1914. Exports totaled $187,160,725 in January–September 1916, against $173,446,925 and $168,726,425 for the same period in 1915 and 1914 respectively. The principal exports for the 1916 period were: coffee, $96,035,500; rubber, $26,507,825; hides, $12,570,175; cocoa, $9,041,959; tobacco, $6,822,825; yerba maté, $6,686,575; manganese, $5,664,600; frozen meats, $5,275,275; and sugar, $4,019,725.

The total imports of wheat flour into Brazil for the first six months of the calendar year 1916 were 143,104,300 pounds, valued at ports of shipment at the equivalent of $4,155,743 United States gold. Of this total quantity Argentina and Uruguay supplied 81,754,134 pounds, value $2,123,205, and the United States 59,783,684 pounds, value $1,967,317.

The rapid increase in the frozen-meat industry and the permanent character of this development are clearly shown by the following figures of exports for the first 11 months of 1916 as compared with the corresponding months of 1915:

In 1915, 14,686,280 pounds, valued at $1,159,291, were exported; in 1916, 71,268,556 pounds valued at $6,606,732. Of this total of 71,268,566 pounds 30,832,904 pounds were exported from the port of Rio de Janeiro and 40,435,662 pounds from the port of Santos. The destination of this meat was: To United States, 5,469,220 pounds; France, 9,779,853; Great Britain, 11,935,748; Italy, 33,446,732; Gibraltar (to order) 10,637,013 pounds.

Preliminary data of the Republic's commerce for 1916, recently issued by the Brazilian Statistical Bureau, give the value of the exports as $267,706,000 (United States currency) and that of the imports as $196,057,000, making a total foreign trade of $463,376,000, which is larger than in either of the two preceding "war years." The balance of trade ($71,649,000), however, is lower than in 1915, because of increased importations during the year just ended.

We can advance at present only one step farther in the explication of the somewhat involved commercial factors or tangled commercial strands of the period we are examining, and this advance we make by inviting attention to the full statistical details of the trade of Brazil during 1915. These complete details for the entire year show the change in proportional representation of the United States, England, and Germany in Brazil's inbound and outbound commerce:

| Imports | 1914 | 1915 |
|---|---|---|
| United States | 17.5 per cent | 32.1 per cent |
| England | 23.7 per cent | 21.9 per cent |
| Germany | 16.1 per cent | 1.5 per cent |

| Exports | 1914 | 1915 |
|---|---|---|
| United States | 40.9 per cent | 41.7 per cent |
| England | 14.4 per cent | 12.1 per cent |
| Germany | 9.9 per cent | ..... |

The exports of the chief products of Brazil were:

| | 1913 | 1914 | 1915 |
|---|---|---|---|
| Cotton, tons | 37,424 | 30,434 | 5,228 |
| Sugar, tons | 5,367 | 31,860 | 59,074 |
| Rubber, tons | 36,232 | 33,531 | 35,165 |
| Cocoa, tons | 29,759 | 40,767 | 44,980 |
| Coffee, 1,000 bags | 13,267 | 11,270 | 17,061 |
| Hides, tons | 35,075 | 31,442 | 38,324 |
| Tobacco, tons | 29,338 | 26,980 | 27,096 |
| Herva matté, tons | 65,415 | 59,354 | 75,885 |

The adverse exchange situation cut down Brazil's receipts for her commodities. The value of her money, in commerce, decreased. Her exports, measured by quantity, were larger than those of 1913, but she got only $265,000,000 (round) for all of them, against $320,000,000 in 1913, although, in her own markets, commodities ruled generally higher, and she paid much higher prices for what she imported.

The export of meat increased in value from $456,463 for the first eight months of 1915 to $3,905,562 for the corresponding period in 1916. Consult *The Americas* (New York 1914–17); *Brazilian Year Book* (Rio de Janeiro); Pan American Union, *Brazil* (Washington 1915); Filsinger, E. B., *Exporting to Latin America* (New York 1916). See general *Bibliography* under History.

## BANKING AND FINANCE

The principal banks in Brazil are: Banco do Brazil, Banco Nacional Braziliero, Branch of the National City Bank of New York, British Bank of South America, Limited, Brasilianscbe Bank für Deutschland, London & Brazilian Bank, Limited, London & River Plate Bank, Limited, Banco Español del Rio de la Plata, Banco Commercial do Rio de Janeiro, Banco Allemão Transatlantico, Banco do Commercio, Banco do Estado do Rio de

Janeiro, Banco Nacional Ultramarino. All of the foregoing are in Rio de Janeiro; the Banco Francesca e Italiana per l'America del Sud is in São Paulo. The monetary system is nominally based on the gold standard. The milreis, the gold unit, which is divided into 1,000 reis, weighs 0.89645 grammes of gold .917 fine, or say, .82207 grammes of fine gold, and its par value in terms of the currency of the United States is $0.5463. One dollar, currency of the United States, is therefore the equivalent of 1$831 gold milreis. The reader will notice that the sign $ for milreis is placed *after* the units and *before* the decimals. The circulating medium, and the only legal money in Brazil, consists of Government notes guaranteed redeemable at the rate of 16d. per milreis. This rate is maintained through a conversion fund known as the Caixa de Conversão (Compare: ARGENTINA — *Banking*). The theoretical unit of the paper circulation represents 0.48816 grammes of fine gold, and its equivalent in terms of the currency of the United States is $0.32444. The par value of $1, currency of the United States, is therefore 3$08226 expressed in terms of Brazilian paper currency. The method of quoting exchange rates in Brazil under normal conditions (see *Latin American Monetary Systems and Exchange Conditions*, by Joseph T. Cosby) is the following:

| 90 D/S | | Sight | |
|---|---|---|---|
| London | 16-3/32d=1$000 | London | 15-7/8d=1$000 |
| Berlin | 1 Mark= .740 | Berlin | 1 Mark= .744 |
| Paris | 1 Franc= .593 | Paris | 1 Franc= .600 |
| | | New York | $1.00 U. S. Cy.=2.111 |

Exchange fell to 14d. on receipt of the news of the outbreak of the European war. A bank holiday (actually 15 consecutive days) was declared, specie payment was suspended by the Caixa de Conversão, and the rate of exchange remained at 14d. (more or less nominal) until the banks reopened on August 18. After that date the rate declined steadily until early in October, when a low point of 10d. was reached. The principal factors in bringing about this heavy decline were: First, the action to which we have referred, taken by the Caixa de Conversão, second, the closing of London credits in favor of Brazil, and, third, the fact that the Government authorized an issue of treasury notes amounting to $81,120,000 or 250,000 contos (one conto = 1,000 milreis; 1,000 milreis = $324.44 currency of the United States). During February 1916, the rate for bankers' 90 days' sight drafts on London varied from 11$\frac{7}{8}$d. to 11$\frac{15}{16}$d., the closing rate on 29 Feb. 1916 being 11$\frac{7}{8}$d., as compared with 11$\frac{1}{2}$d. on 31 January. The rate for 90 days' sight commercial bills was 11$\frac{3}{4}$d. on 24 April 1916.

By executive decree, promulgated 23 Dec. 1916, the exchange of the notes of the Caixa de Conversão (Conversion Office) for

gold continues suspended until 31 Dec. 1917. Exception is made of the exchange of notes by order of the Government to attend only to the service of the external debt of the Union.

The aggregate cash balances of the principal banks in Rio de Janeiro at the end of February 1916, showed a decrease of about $1,325,000 as compared with those at the end of January. Discounts during February in the same year showed an increase of $265,000, approximately. The rate obtainable for first class paper was about 7½ per cent. The Federal Treasury 6 per cent (paper) bills, commonly called "sabinas," issued in 1915, commenced to fall due. The Government availed itself of its option of renewing the bills for one year, paying interest in cash. Custom House receipts, both at Rio and at Santos showed an increase for the first two months of 1916 as compared with the same period in 1915. The commercial situation in São Paulo, 15 Mar. 1916, was reported to be very sound. The large commercial houses in England and the United States who send out agents discovered that the difficulty was rather in the execution than in the obtaining of orders. Credits of three or four months were given, whereas, a year before, practically all business was done on a cash basis. The question of tonnage continued to absorb attention, freights remaining very high. The greater part of the shipments went to the United States. Cotton mills reported progress, several companies showing comparatively prosperous situations.

Brazil in 1915 confronted the absolute necessity of mending the national finances, but declined to make the mistake of marking up taxes and imposts on the supposition that higher charges would necessarily produce greater revenue. The fact is that, during the five years, 1910 to 1914, inclusive, every year brought a deficit of increasing size. Excellent judgment was shown by those who favored the lowering of export duties and the reduction of the rate of port-charges exacted by companies that have concessions for operating port-works; the very reasonable position being taken that Brazil's products should be allowed to compete effectively in foreign markets with those of other lands. At this time it was stated that the general expenses of moving goods through certain Brazilian ports were five times to twenty times greater than the expenses of moving goods through North American or European ports.

The Brazilian budget law for 1917 estimates the general receipts at 116,310,204 gold milreis ($62,807,510) and 327,300,333 paper milreis ($78,552,080); the revenue with special application is placed at 12,025,000 gold milreis ($6,493,500) and 12,838,000

paper milreis ($3,081,120). The total revenue, when expressed in American currency, shows an increase of $7,365,839 over 1916. The budget law fixes the expenses for 1917 at 98,532,945 gold milreis ($53,207,790) and 407,426,730 paper milreis ($97,782,408), showing a deficit of $55,995 for the year, and an increase of $8,169,205 over the expenses of 1916.

In order to point the way (and we can do no more than that at present) to a thorough comprehension of this part of our subject, we must show that the European war did not by any means originate the critical depression. The withdrawal from Brazil of British supplies of capital in the Balkan money stringency (1913–14) had occasioned a financial revulsion before the shock of war was added. "Brazil was feeling the depression badly in the first six months of 1914," says a writer in *The Americas* (Vol. I, No. 8, page 33). "The foreign trade of Santos port, which is typical of all Brazil, showed a decline of 44½ per cent in imports for those months as compared with the corresponding period of 1913, and the second half of the year showed a drop of 60½ per cent as compared with the corresponding period of 1913. In exports, the decline of the first half of the year had been only 6½ per cent. The drop in the second half — the war period — was 48.2 per cent. Very heavy declines in the imports of machinery of all kinds (60 per cent) show the effect of the cutting off of the European capital supply"— that is, continental as well as British. Moreover, Brazil's chief commodities held a less controlling position in the markets of the world at that time. "Plantation rubber undercut in price the wild rubber of the Amazon. Coffee dropped sharply in export price from 1912 on. In 1914 it was nearly 40 per cent below the 1912 price." We have already spoken of the violent swing of exchanges against Brazil; we now add that, in view of the hard facts that the Federal Government had large debt maturities and that its revenues (chiefly derived from imports) had fallen off nearly one-half owing to the derangement of trade resulting from the war, there was nothing to occasion surprise in the circumstance that a settlement was made with the holders of Brazilian securities, by which the maturities were extended for 13 years.

Authoritative opinions from *The Americas* (Vol. I, No. 12), give features of the financial situation in September 1915. Credit was then granted only with the greatest reserve. "The Federal, State, and Municipal governments figured in the mercantile credit situation very gravely because it was necessary during the most critical part of the months just subsequent to the declarations of

war for these to extend official help to the general situation and to finance the orderly continuation of their [own] necessary activities through reciprocal mercantile credits. The Government was said to owe about $75,000,000 among leading business houses over the country, and these were severely handicapped by its [the Government's] inability to settle accounts in a way to permit them to realize without some loss of principal. The Rio de Janeiro Chamber of Commerce held several largely attended meetings in which protesting resolutions were sent to the Government, against the latter's payment of local accounts for supplies in Treasury notes at face value when these could not be disposed of at more than 75 per cent of face value. . . . . Professional and party politics were as active in Brazil, and with the same effects, as they have been during like trying times in the United States. It was, however, gratifying to note a distinctively forward movement in which 'measures, not men' were increasingly sought for by a very important section of the population. Production, with a view to export, was the problem toward which all eyes were turned, as being the chief hope of the Republic. The remarkable part which Argentina has been called upon to play since the outbreak of the war, as a supplier of wheat and frozen meat to the rest of the world, has not been without its lesson." Of course the depreciation of Brazilian paper money in exchange transactions has proved to be highly disadvantageous to her. Thus, the official statement of the Republic's imports and exports during the first five months of 1915, issued by the Director of Commercial Statistics, Ministry of Finance, shows the largest credit balance Brazil has had in foreign commerce in five years. But although 7,095,000 bags of coffee were exported, as against 4,643,000 in the corresponding period of 1914, and in paper currency of the locality the total value was 253,657 contos, as against 190,328 contos, the real and actual value when converted into dollars (currency of the United States) was only $68,155,000 as against $63,445,000 the year before. The domestic price of rubber was higher, indeed, in terms of the paper currency, but the amount credited in exchange was only $15,665,000 against $20,720,000, a drop of 25 per cent.

We read in *Proceedings of the First Pan American Financial Conference* (Washington 1915), the summary by Hon. John Bassett Moore of a very full Brazilian report that dealt with the financing of transactions involving the importation and exportation of goods, with questions of local and commercial banking, and with the various questions of trade and of commerce. It

recommended in particular, first, that greater prominence should be given in the public schools and other educational institutions of the United States to the study of the Central and South American countries, their geographical location, natural resources, government, and languages; second, that emphasis should be given to the necessity of greater liberality being exercised in the interpretation of customs regulations by the United States and Latin America; third, the need of more effective protection of trademarks; fourth, the facilitation of reciprocal business relations between merchants and manufacturers of the United States and of Latin America, the grant of such reasonable credits and business information in both directions as may be safe and desirable; fifth, the establishment of a system of direct exchange between the United States and Latin American countries based on the dollar unit of the United States; sixth (in order to facilitate the interchange of products adapted to the needs of American countries), the formation of bureaus of standards of the respective countries, to standardize, in so far as possible, the requirements of each country; seventh, the extension of reciprocal tariff concessions between the United States and Latin American countries (such concessions as characterized the famous Cuban reciprocity treaty); eighth, the inauguration of a rapid, frequent, and dependable marine transportation service, to provide adequately for the maintenance and development of commerce between the countries of North, Central, and South America; ninth, that the postal rates now existing within the United States should be extended to include the Latin American countries and made reciprocal, and that a parcels post and money-order system should be generally established; tenth, the extension of direct telegraphic service, either wireless or cable, between all parts of North, Central, and South America, to be owned, controlled, and operated by American interests exclusively; and, eleventh, to the press of all the interested countries, the establishment of a more comprehensive and reliable system for the exchange of important news items.

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## THE ARMY AND NAVY

### Army

Military service is obligatory on all male citizens from the 21st year to the 44th, inclusive, with numerous exceptions, such as that made in favor of men who demonstrate skill in marksmanship. Instruction by French officers has produced excellent results for the military police of São Paulo. Terms of service are: two years in the ranks, seven in the reserve — or, as it is called, the active reserve, seven in the Territorial Army, and the remaining years in the National Guard. The country is divided into military zones, embracing 21 districts. Reservists are called out for one month of training each year; Territorialists for two weeks or more annually. Units of the active army are: fifteen regiments of infantry; twelve of cavalry (of four squadrons) and five of two squadrons besides the cazadores; five regiments of field artillery (nine batteries, each with four guns); nine horse artillery, five howitzer, and six mountain batteries; five battalions of engineers and nine of garrison artillery. Total in the service, 94 batteries, of which 36 are in fortifications. The Brazilian artillery owes the beginning of its organization to the Conde de Eu, a brilliant officer in the time of the Emperor Dom Pedro. Of more practical and modern seeming, in the engineers' class, are the 17 sections of men skilled in telegraphy, construction of bridges, railways, and aeronautics. The military zones or territorial districts supply men for five strategical and three cavalry brigades which are stationed near the frontiers of Argentina, Paraguay, and Uruguay. The total peace strength of Brazil's land forces is about 32,000, to which may be added a gendarmerie of 20,000. In time of war the number may (it is sometimes asserted) be increased to 60,000 or even five times that number if equipment can be found.

### Navy

The naval contingent is composed of 7,500 to 8,000 men in all, and the squadron of the following units: The Dreadnoughts *Minas Geraes* and *São Paulo* (each having displacement 19,281, principal arm. 12 guns of 12 in. and 22 of 4.7 in., H.P. 23,500, and nominal speed 21); the old battleships *Deodoro* and *Floriano* (each with disp. 3,200, prin. arm. 2 guns of 9.2 in. and 4 of 4.7 in., H.P. 3,400, and nom. speed 14); protected cruisers *Bahia*, *Rio Grande do Sul* and *Ceará* (each having disp. 3,500, prin. arm. 10 guns of 4.7 in., and H.P. 18,000); the old *Barroso* (disp. 3,450, 6

guns of 6 in., 4 of 4.7 in., and 2 torpedo tubes) and *Tamandaré* (disp. 4,500, 10 guns of 6 in., 2 of 4.7 in., and 2 torpedo tubes); also 5 torpedo gunboats and 4 first-class torpedo boats, 10 Yarrow destroyers and 4 destroyers, a mine ship of 1,500 tons, a small vessel (1,200 tons) for hydrographic service, 3 submarines and other vessels, the total number being 52. The naval school is at Rio de Janeiro. Ladario, in Matto Grosso, has a river arsenal; other arsenals are at Rio and Pará.

## TRANSPORTATION AND COMMUNICATION

Railways have a total length of 15,248 miles open to traffic. The Government owns and administers 2,188 miles; 5,716 miles are privately leased; 3,447 miles are, by government concessions, granted to various enterprises; and 3,897 miles operated by private corporations under State concessions. The design of the entire system is such that, when completed, the Brazilian lines will connect with the very important railway system of Argentina (q.v.), and those of Paraguay and Uruguay.

The chief Atlantic ports are: Rio de Janeiro, Santos, Pernambuco, Bahía, Puerto Alegre, Rio Grande, Ceará, and Paranagua; the most important Amazonian ports being Manáos (strictly on the Rio Negro near its confluence with the great river) and Pará. At these ports are registered many transatlantic lines — about 50 in all; and the merchant navy of Brazil consists, according to the latest reports available, of 238 steamers of 130,582 tons net, and 290 sailing vessels of 60,728 tons net. Coasting and river vessels must be Brazilian. The Brazilian Lloyd, that has long maintained a monthly service between Rio and New York, has also established a line connecting Portuguese, Brazilian and English ports. State aid has been granted liberally to river and coasting enterprises. Privately owned telegraph lines have a very large mileage. The system under control of the Government comprises 21,393 miles, with 270 offices. Post-offices in 1917 numbered 3,587. The systems of wireless telegraphy have been extended by the addition of five new stations erected on the coast and 15 along the Amazon and Paraguay rivers.

Before leaving the subject of transportation, we desire to quote a paragraph from *The Americas* (Vol. I, No. 12). It invites consideration of the inadequacy of existing means of transportation, in the following terms: "Railway development is at an

absolute standstill at the moment, owing to the financial stagnation consequent on overspending, accentuated, of course, by the effects of the war. This is, however, but temporary, and with a return to normal conditions the forward movement of railway policy in Brazil, which has always been a prominent one, will be resumed. Many immense districts are still without sufficient and some without any communication with outlets for pastoral and agricultural products. The development of these districts will make Brazil one of the most prolific exporters in the world; climate, soil, rainfall, and freedom from some of the more noxious cattle pests encountered elsewhere make the country especially suited to pastoral pursuits, while there is waiting for the plough and harrow a large extent of country, owing to its vastness scarcely valued at its true worth by Brazilians themselves."

## POPULATION AND ITS DISTRIBUTION

The number of inhabitants in the entire country is approximately 24,600,000, the increment being therefore, 10,000,000 in 26 years, the population in 1890 having been 14,333,915 according to calculations and estimates generally accepted as correct. The rate of growth in São Paulo is noteworthy. That State had 837,000 inhabitants in 1872; in 1890 it had 1,384,000; in 1900 it had 2,280,000; and during the next 16 years the increase was over 2,000,000. The State capital, also called São Paulo, with only 35,000 inhabitants in 1883, grew with the growth of the coffee-trade and the general prosperity of the State; and so rapidly that in 1907 the number of its inhabitants was 340,000, and in 1916 about 400,000. The growth of population in Acré Territory's seringa forests is also rapid. But such increment as is noted seems slight in view of the fact, emphasized in Bryce's *South America*, that "taking Brazil as a whole, no great country in the world owned by a European race possesses so large a proportion of land available for the support of human life and productive industry." The same observer is authority for the statement that one can hardly reckon the true Brazilian white nation at more than 7,000,000, the other elements being negro, colored, aborigines of the Amazonian forests, half-breeds, etc.; and, finally, the foreign element, more important by reason of its energy and industry than on account of numbers, since it probably little exceeds 1,000,000 all told. Substantial increase may be anticipated at Porto Alegre, Pelotas,

and the city of Rio Grande do Sul, the three gateways on the Atlantic coast giving access to the rich agricultural plateau of the southernmost Brazilian state.

For abstracts of census reports of population, consult the *Brazilian Year Book* and publications of the Pan American Union —*Brazil, Bulletin, Latin America*, etc.; for descriptions of the inhabitants of large cities and towns, and for studies of native races, the accounts of travel or exploration mentioned in *Bibliography* under HISTORY.

## POLITICAL DIVISIONS AND CITIES

The Federation of Brazil consists of 20 States, the Federal District and the Territory of the Acré. In alphabetical order, with their areas and populations, capitals and populations, they are as follows:

| STATE | Population | Area (in square miles) | Capital | Population of capital |
|---|---|---|---|---|
| Alagôas | 785,000 | 22,583 | Maceió | 45,000 |
| Amazonas | 387,000 | 732,439 | Manáos | 63,000 |
| Bahia | 3,000,000 | 164,643 | Bahia, or São Salvador | 280,000 |
| Ceara | 886,000 | 49,247 | Fortaleza | 50,000 |
| Espirito Santo | 297,000 | 17,412 | Victoria | 20,000 |
| Goyaz | 280,000 | 288,536 | Goyaz | 10,000 |
| Maranhão | 562,000 | 177,561 | São Luiz | 50,000 |
| Matto Grosso | 142,000 | 532,684 | Cuyabá | 20,000 |
| Minas Geraes | 4,500,000 | 221,951 | Bello Horizonte | 40,000 |
| Pará | 568,000 | 443,905 | Belem do Pará | 200,000 |
| Paralyba | 520,000 | 28,854 | Paralyba | 20,000 |
| Paraná | 406,000 | 85,451 | Curityba | 50,000 |
| Pernambuco | 2,000,000 | 49,573 | Recife, or Pernambuco | 240,000 |
| Piauhy | 400,000 | 116,523 | Therezina | 45,000 |
| Rio de Janeiro | 968,000 | 26,634 | Nictheroy | 53,000 |
| Rio Grande do Norte | 279,000 | 22,193 | Natal | 30,000 |
| Rio Grande do Sul | 1,095,000 | 91,533 | Porto Alegre | 100,000–150,000 |
| Santa Catharina | 561,000 | 28,632 | Florianopolis, or Desterro | 40,000 |
| São Paulo | 4,500,000 | 112,307 | São Paulo | 400,000 |
| Sergipe | 413,000 | 15,093 | Aracajú | 30,000 |
| Acré Territory | 154,000 | 74,000 | Rio Branco, or Senna Madureira | 3,000 |
| Federal District | 1,500,000 | 538 | Rio de Janeiro | *1,500,000 |

* If the entire District is included; otherwise about 1,000,000.

### Rio de Janeiro

The capital of the Republic, Rio de Janeiro, is the largest and best-known city of the country and the second city of South America. It is located in a Federal district of 538 square miles, on the shore of a bay which runs 17 miles inland from the Atlantic, and is surrounded on all sides by the mountains of the Brazilian coast range. In the older portion of the city the streets are narrow and crooked, and are lined by low buildings. In the new portion, however, the structures and facilities are modern. Street railway service is well organized, all kinds of vehicles are found on the streets, including a great many automobiles, but a large part of the carrying is still performed by porters, and food supplies are sold from house to house. Recently very extensive quays have been built and equipped with cranes, warehouses, and railway tracks, and the harbor has been dredged, so that vessels

can load and unload without the aid of lighters. Rio de Janeiro is the chief industrial centre of the country. The textile industry is perhaps making greater progress than any other. Five of the larger cotton mills in the Federal District of Rio de Janeiro employ 8,000 operatives and have an output of 75,500,000 meters (meter = about 1.09 yards). Another mill employs 1,500 operatives and utilizes 15,000 horsepower. Rio also has flour mills, shoe, shirt, collar and stocking factories, a plant for the manufacture of hydrogen gas to be used in welding and cutting iron, a railway car assembling works, a fibre plant, steam laundry, furniture, lumber and cabinet works, hat, umbrella, soap, candle and cocoanut-oil factories, chemical products, rubber, preserved food, beer, chocolate, biscuits, glass, paper, and leather goods works. There are altogether in the Federal District 584 manufacturing establishments in operation, with a combined capital of $42,582,000, an annual output valued at $61,598,700 and employing 30,490 operatives. Rio de Janeiro is one of the principal markets for the coast fishing industry. It takes 35 to 40 per cent of all imports into the country, and 19 per cent of the coffee shipped from the country passes through it. It is also the official residence of the United States ambassador to Brazil and the seat of a United States consul-general. From New York there is a departure once a week of passenger steamers, with modern express service every 14 days, the schedule to Rio de Janeiro being about 16 days, with a stop at Bahía. Between Rio and Europe steamers two or three times a week are available, the time to or from Lisbon being from 11 to 16 days.

## São Paulo

The second city of importance in Brazil, São Paulo, is situated 210 miles southwest of Rio Janeiro, with which it is connected by rail, at an elevation of 2,500 feet, about 40 miles from the sea, its port being Santos, 45 miles distant. It is the coffee mart of Brazil and, in a sense, of the world. It is a modern city, with a crowded centre, recently improved by new and straight streets and the activities of the State of which it is the capital give it rather a North American character. There are 14 banks of importance in the city, with aggregate deposits of $60,000,000. Of these four are Brazilian, three English, two German, one American, one Argentine, one French and Italian, one French and one Italian. The most important is the Banco de Commercio e Industria do Estado de São Paulo, with $18,500,000 deposits and about $11,000,000 cash reserve. The city contains several buildings of great architectural merit. The Municipal Theatre, recently constructed, is one of the finest of its kind in the world. The Ypiranga Museum and La Luz station of the São Paulo Railway are modern palatial structures. The government buildings are also noteworthy and there are many palatial residences. In the whole State of São Paulo, there are over 300 large factories, with a capital of $50,000,000 and a working force of 30,000, and most of these factories are in the city of São Paulo. These include iron foundries, breweries, flour mills, chemical works, cotton mills, jute mill, silk and linen factories, cotton-seed oil mills, etc. Extensive city improvements are under way or planned, including paving, building of viaducts between the two sections of the city, construction of boulevards, etc. There is a good deal of interest manifested in the methods and products of the United States. It is the centre of the State railway system and is the seat of a United States consular agent. São Paulo deserves the close attention of the United States manufacturers looking into the export trade with Brazil, as it is one of the most up-to-date and thriving cities of the continent, is growing rapidly, and is the centre of the most enterprising of Brazilian States.

## Bahía or São Salvador de la Bahía de Todos os Santos

This city, the capital of the State of Bahía and the oldest city of Brazil, is situated on the east shore of the Bay of All Saints, from which it takes its name. It is 440 miles southwest of Pernambuco and 738 northeast of Rio de Janeiro, with both of which cities it has steamship and cable connections. The city is divided into the lower and upper cities, the former is the business quarter, and until recently had narrow, close, ill-paved streets. It has recently entered into a comprehensive scheme of reconstruction, with the co-operation of the city, state, and nation, the city having authorized a loan of $7,790,000 and the State one of $4,860,000 to be applied in part to this purpose. Old buildings are being torn down and new ones, including five and six story concrete office buildings and several thousand houses for workingmen, constructed in their place; new streets and boulevards are being laid out; and the water and sewerage systems are being modernized. The upper part is clean and cool and commands a splendid view. Hydraulic elevators connect the two parts of the city. Electric railways traverse the city and connect it with the suburbs. It is also the coast terminal of a railway to the interior. Electric light and power are obtained from a plant across the bay from Bahía, the power for which is generated at a near-by waterfall. One of the principal improvements is the construction of new docks, which was began in 1909 and finished in 1915. They cover 1.33 miles, cost $22,500,000, and provide one of the best ports in South America. Bahía is the port of entry for over 6 per cent of all Brazilian imports. The water alongside is deep enough to accommodate all ocean steamers, and the expense of unloading by means of lighters is avoided. The island of Itaparica forms a natural breakwater for the harbor. Bahía has numerous industries. It has long been one of the largest producers of cotton cloth, and also a supply centre for shoes, boots and hats. There are also manufactories of furniture, white clothing, chemical products, glass, leather goods, wax, sugar, tobacco, lime and cement, and foundry products. It has a large coast trade, the chief exports being cotton, sugar, coffee, hides, dyewoods, jute wares, and tobacco. Bahía ranks third among the ports of Brazil in value of imports, and trade with the United States in both directions is important. The chief articles of import from the United States are machinery, tools, electrical equipment, typewriters, shoes, office furniture, sewing machines, telephone and electric railway equipment, printing presses, etc. Cacao to the value of $1,500,000 is exported annually to the United States, rubber to the value of $1,000,000, and hides and skins to the value of $600,000. The total import trade of Bahía is about $17,000,000 annually. It is also the chief whaling port of Brazil, the catch in 1912 being the largest for many years because of the use of whaling steamers and harpoon guns. Steam trawlers for ordinary fishing are also used with success. A United States consulate is established here. There is a departure of passenger steamers once a week, with an express service every two weeks from New York to Bahía, the schedule being about 13 days.

## Pará or Belem

The capital of the State of Pará. The city is situated on the Pará River, near the mouth of the Amazon and 55 miles from the Atlantic. The city presents a picturesque appearance from the harbor. The streets are paved with Belgian block imported from Portugal, and there is a good electric-tramway system, electric and gas lighting, waterworks, and a sewerage system. All ships going to or from the Amazon must enter or clear at Pará. The city has a fine concrete quay, 4,000 feet long and the river has been dredged so that ocean steamers can load and unload

alongside. The Port of Pará Company is American, and holds a lease until 1973, or until 1996 if certain conditions are fulfilled, with a guarantee of 6 per cent on its capital. Pará is the port of outlet for all the products of the vast Amazon territory, mostly rubber, cacao, Brazil nuts and hides. It is one of the leading ports of the world in rubber export, and controls about one-half the supply of Brazil, amounting to about 20,000,000 kilos annually, valued approximately $35,000,000. The total exports reach an approximate annual value of $39,000,000 and the imports $16,000,000. Pará is the seat of a United States consul. As the city depends for its prosperity on international commerce it is cosmopolitan in character, with most of the whites Portuguese. It is almost on the Equator and the climate is of course hot. The city is growing rapidly and will continue to increase in importance as the thinly settled territory behind it is opened up.

## Pernambuco or Recife

The capital of the State of the same name, situated on the Atlantic coast at the easternmost point of the continent. It is 3,982 miles from New York and 4,065 miles from Liverpool. This port serves the cotton and sugar district of Brazil. There are about 60 sugar mills in the vicinity of the city and within it are cotton mills turning out fustians, drills, fancy oxfords, and other cloth. Pernambuco, like other large Brazilian cities, is in process of reconstruction and development, old streets being widened and straightened and many new houses being built. A new drainage system has also been laid. The city has electric railways, electric and gas lighting. The harbor is undergoing extensive improvements which include a breakwater, a stone jetty and a long quay wall bounding an area of reclaimed land at a total cost of $16,000,000. When these are completed the inner harbor will be accessible to ocean steamers. The imports at this port average about $15,000,000 annually, and the exports $5,000,000. A United States consulate is located here. Pernambuco has rail connection with Parahyba in the north, and in the south with Maceió.

## Santos

This prosperous city in the State of São Paulo, is situated on the Atlantic coast, 200 miles southwest of Rio de Janeiro, and 45 miles from the city of São Paulo. The immense export and import trade of the interior region which it serves has made it the second port of the Republic, the total value of its trade reaching about $251,000,000 annually. The harbor is accessible to the largest vessels. Santos is the largest coffee exporting port in the world, being the outlet for the great coffee-producing state of São Paulo. Coffee to the value of about $65,000,000 is shipped annually from this port to the United States. The annual export of coffee to all countries from this port has averaged over $120,000,000 for the last ten years. The chief exports from Santos to foreign countries in 1915 were coffee, valued at $113,424,679; hides, $539,275; cacao, $289,340; bran, $69,754; and tobacco, $24,254. Exports to the United States in the same year totaled $63,055,465, of which coffee represented $62,431,991; hides, $318,817; and cacao, $292,500. Frozen meat is fast becoming an important export, the value now exceeding $2,000,000 annually, Great Britain, Italy and the United States being the chief purchasers. Bananas rank third in the list of exports, being valued at $500,000 annually and going to Argentina. Santos is situated on an island, protected from the ocean by a larger island, with a channel six miles long between the two. A sea wall, three miles long, has been constructed on the side of the city. This made possible the reclaiming of much pestilential and malaria-breeding swamp land and the city's healthfulness has been increased in consequence. It is the seat of a United States consul.

## Maceió or Maçayó

The capital of the State of Alagôas. Situated on the Atlantic coast, 130 miles southwest of Pernambuco. Cotton goods and machinery are manufactured here and it is the centre of an active trade through its port Jaraguá. Shipyards are provided in the harbor. A breakwater is under construction in the south harbor where there are sandbanks. The coral reef protecting the northern harbor is to be connected with the mainland by a trellis bridge. About $6,000,000 are being expended on these improvements. Cotton, corn, and hides are the principal items of export. A consular agent of the United States is located here.

## Manaós

Capital of the State of Amazonas. Situated on the east bank of the Rio Negro, 10 miles from its junction with the Amazon and 1,000 miles from the Atlantic. It has a good harbor to which ocean steamers ascend, and is an important commercial centre. There is a flourishing trade in the forest products of the Amazon and rubber is exported in large quantities. Manaós is a well-built city and is lighted by electricity. There is cable connection with Pará. A United States consular agent is located here. In one year Manaós has imported as much as $1,000,000 worth of cotton goods, and other articles such as matches, groceries, hardware, firearms, and clothing are in demand. Fine floating docks were completed in 1910, at a cost of over $5,000,000. The equipment includes a stone wall, 1,500 feet long, and connected with the floating docks by a bridge 550 feet long. There are 16 warehouses and the most modern electric machinery.

## Maranhão or São Luiz

Capital of the State of Maranhão. Situated on an island between the bays of São Marcos and São José, 280 miles east southeast of Pará. It is well-built and clean and the climate, though hot, is not unhealthful. The harbor suffers from silting but extensive port works recently constructed have improved this condition. The city carries on a considerable trade. Its imports amount annually to about $200,000 and the exports exceed $300,000 annually. A United States consular agent is located here.

## Porto Alegre

Capital of the State of Rio Grande do Sul. Situated at the northern end of the Lagoa dos Patos, 100 miles north of Rio Grande. It is one of the best built and cleanest cities of Brazil, has a delightful climate, and is the chief outlet for the products of the northern part of the State. It has railway connections with the interior. The chief articles of its export trade are beef, salt pork, lard, hides, and flour. Its export trade exceeds $1,250,000 annually, while its imports are valued at approximately $11,500,000 annually. Near the city there is a coal mine with a yearly output of 16,000 tons. New docks are being installed here at a cost of $12,000,000.

## Natal

Capital and chief port of the State of Rio Grande do Norte. Situated on the Potengy River, near the Atlantic, 140 miles north of Pernambuco. The harbor has numerous sand bars, but dredging has opened the port to vessels of 22 feet draught. With the removal of these bars Natal will become one of the best ports of North Brazil. The city is the chief outlet for the products of the State. The principal articles of export are cotton, leather, rubber, cabinet woods, and sugar. It is the residence of a United States consular agent. It is connected with Pernambuco by rail and is the terminus of another railway to the interior of the State.

## Fortaleza or Ceará

Capital of Ceará. Situated on an open bay near the mouth of the river Ceará. It is well-built, has broad, well-paved streets, and is one of the most beautiful cities of Brazil. The surrounding region is sterile, but there is rail connection with the fertile lands of the interior. Extensive harbor improvements have been made recently. Fortaleza is the chief port of the State, the trade in rubber, cotton, coffee, sugar, animal products and drugs being considerable. It is the seat of a United States consul. The city is 350 miles northeast of Pernambuco.

## Florianopolis (formerly Desterro)

Capital of the State of Santa Catharina. Situated on Santa Catharina Island, 485 miles southwest of Rio de Janeiro. It has a picturesque site and is well built. It has an excellent harbor defended by fortifications. The exports consist of manioc flour, coffee, sugar, rice, fish, hides, earthenware, and meat products. Coast fishing is an important industry.

## Victoria

Capital of the State of Espirito Santo. Situated on the Island of Espirito Santo, 270 miles northeast of Rio de Janeiro. It is the commercial centre of the State and exports sugar, coffee, rice, and manioc flour. Lake Rio, Victoria has practically wiped out yellow fever and has a good sanitary service, water system, and electric light and power, with a recently built electric street-car system. Ocean-going vessels can enter the port, and quay extensions of 3,500 feet with dock facilities have been constructed recently. About $4,000,000 are being expended on harbor facilities.

## Parahyba

Capital of the State of the same name. Situated on the Parahyba River, 10 miles from the sea and 50 miles north of Pernambuco (Recife). It has rail communication with the latter and also with Natal. It is the principal outlet for the products of the State, the principal exports being cotton and sugar.

## Curitiba

Capital of the State of Paraná. Situated on the Iguazú River, about 3,000 feet above sea level. It is well built, has a street railway, and railway connections with the interior and the coast. Paraguay tea (yerba maté), corn, beef, fruit, and tobacco are exported from here. Gold has been found in the vicinity.

## Therezina

Capital of Piauhy. Situated on the Parahyba River, 220 miles south of the city of Parnahyba on the coast, with which it has rail connection. It is an important commercial centre. Cotton cloth is manufactured here.

## Cuyabá

Capital of the State of Matto Grosso. Situated on the Cuyabá River, was formerly an important diamond and gold mining centre. It has broad, well-paved streets and is an important commercial centre. It has a steamship service to Montevideo, a distance of 2,500 miles.

## Nictheroy

Capital of the State of Rio de Janeiro. Situated on the east side of the entrance to the bay, opposite the city of Rio de Janeiro. It contains a number of textile, shoe, and furniture factories, and it is surrounded by handsome suburbs.

# CHILE

By Marrion Wilcox

## NATIONAL BOUNDARIES, GEOGRAPHY, ETC.

CHILE, chēl'ä, or Chili, chīl'ī (the Republic of), situated on the western coast of South America, between the Andes Mountains and the Pacific Ocean, is bounded on the east by Argentina and Bolivia, and on the north by Peru. In length it surpasses even the Argentine Republic (q.v.), for it extends from lat. 55° 59′ S. to 17° 57′ S. in a curving line, the total length of which is nearly 2,700 miles, but its greatest width is only 248 miles, and in the narrowest part the measurement from west to east is less than 70 miles. The total area is 292,419 square miles. Beside the Andean Cordillera on the east, there is a parallel western coast ridge or cordillera with moderate elevations, and in the valley between the two, from Santiago, the capital, to the south, are found the best agricultural districts and many towns. Compared with the other South American countries, Chile ranks as the seventh in size.

The northern part of Chile is a hot desert; the southern part, a cold region of almost incessant rains; but between these extremes lies a great extent of territory blest with a temperate and healthful climate. Dividing the Republic, for convenience of characterization, into five zones, we may say that in the northernmost zone, despite its nearly absolute lack of vegetation, we find the chief sources of the national wealth — the deposits of nitrate of soda, mines, etc. The second zone, continuing toward the south, is less torrid. Rain falls several times in the year; and

though mining is the chief industry, small areas are also devoted to agriculture. The third zone, in the centre of the country, has a temperate climate and fairly abundant rains. Cattle-raising, mining, and the cultivation of cereals, vines, and fruits are the leading industries. In the fourth zone, where rains are more abundant and the climate cooler, the chief products are wheat, cattle, lumber, etc. The fifth and most southerly zone, extending to Cape Horn, is a land with a cold and rainy climate — strictly antithetical to the northermost zone, since it is not without hope of acquiring wealth despite its confessed lack of mineral resources, as we shall show. Mr. Mills (see *Bibliography*) prefers a division of Chile, physically, into four zones only, as follows: The arid northern, from the Peruvian boundary to 27° S. lat.; the semi-northern, less arid, from 27° to 32°; the semi-southern, from 32° to 43° 30′, fertile and agricultural; and the southern, from 43° 30′ southward, about 1,150 miles, a district of islands, and uplands, rich in forests, fisheries, and lands suitable for stock-raising.

A striking characteristic, never to be disregarded, is a longitudinal valley. "The country is in essence a valley enclosed between two lines of mountains," Mr. Mills writes. "On the east runs the Cordillera of the Andes, diminishing in height to the south, where its line is crossed by various rivers and lakes. On the west runs a parallel but lower range, the coast Cordillera, interrupted from about 42° S. lat. by many arms of the sea, but containing the long line of islands that fringe the mainland." Chilean geographical contrasts and extremes are here illustrated almost dramatically: The Longitudinal Valley, admirably fertile between 30° and 42° S. lat., is prolonged in the arid desert of the north, but in the south is submerged beneath the ocean, becoming a drowned valley. "The Cordillera of the coast is, geologically, older than that of the Andes. It is, of course, lower and less continuous, but so far resembles it that it presents, generally speaking, an abrupt slope to the west, while sinking much more gradually to the east. In Tarapacá it rises, almost from the sea, to heights varying from 1,000 to 7,000 feet. In Atacama it averages 3,000 feet, culminating in Peñarave (7,300 feet). Farther south it recedes from the sea and sinks in height till it disappears below Tres Puntas. It rises again to some 7,000 feet in the central provinces, notably in Roble and Campana, near Valparaiso. South of the river Ropel the range becomes lower and more complicated. Further south it splits into two parallel low ranges. South of the Bio-bio it is known as the Cordillera of Nahuelfuta."

Still further toward the south it shares with the valley, its companion throughout, that plunge which we have mentioned; but its peaks and high plains form the line of islands clinging to the curved shore-line, though only at one point, the peninsula of Taitao or Taytao, united to the continent visibly.

Rivers that rise on the western side of the coast Cordillera form the smaller hydrographic system of the country, and the larger hydrographic system, especially interesting as the obvious and at any future time available source of unlimited power for industrial uses, includes rivers which have their source in the Andes and flow to the Pacific Ocean. North of lat. 28° S. all the rivers, except the Azufre of Tacna and the Loa, carry their waters to the sea only during a portion of the year. In the region just below this, or until we reach lat. 35° S.,— and particularly in the Valparaiso-Santiago section — we find rivers which are swollen by the melting of snow on the mountains in November, December, January, and February, and by the rains that fall on their watersheds at another period. The more important of these two annual floods is the former, which brings down into the agricultural valleys alluvial silt to renew their fertility. But below lat. 35° S. the rivers are subject to floods especially in June and July — rather then than in the season November to February — simply because the melting of snow on the mountains affects the total volume of water much less in these latitudes. Navigable rivers are comparatively few, and in any event they would be called upon to play a less important rôle here than that assigned to the great inland waterways of Argentina and Brazil, since the ocean itself facilitates communication with, or between, the different parts of this narrow country. The Andean rivers of Chile offer, as we have said above, practically unlimited sources of hydraulic power available at any future time, because they rise at great altitudes and accomplish their descent to the coast by a series of cascades and great waterfalls, not at a single point or two but in many widely separated regions.

As the foregoing statements would lead the reader to assume, we find above the southern limits of the arid zones saline depressions in lieu of lakes, although in remote ages, before radical changes of climatic conditions had occurred, the lake region certainly embraced these northern districts. Lakes are still numerous in the south and are often found at imposing elevations.

It is not enough to say that observation of the characteristics of rivers and of lakes emphasizes again the contrast between the rainless and at inland points often extremely hot northern

provinces and those regions of the south in which the rainfall is excessive. We add that there are almost startling variations of temperature as between the hours of sunlight and those of darkness, both at high places among the mountains and in the northern zones generally; and that the severity of winter's cold is confined to the Far South and the high Andes, snow never falling on valley or foothill north of lat. 36° S. Moreover, in order to appreciate truly the constant influence of cold currents, atmospheric and marine, and of the Andean barrier, it is most necessary that we should take the broader view which includes facts relating to the climate of the east coast of South America as well as to that of the west coast. The difference occasioned, for example, by the cold current from the south that flows northward along the west coast is noteworthy. The mean annual temperature on the west coast, wherever the influence of this current (the so-called Humboldt current) is felt, is 6° to 7° Fahr. lower than that of places in the same latitude on the east coast. The interest of this subject can be merely suggested in an article devoted to a single country. A somewhat more comprehensive account of temperatures, etc., will be found in the article Latin America. But we note here that the Humboldt current reaches Chiloé Island first, and thence flows northward to the equator. South of Chiloé, therefore — or, more exactly, from Taytao Peninsula southward — we find other climatic influences and conditions; and this statement applies to the entire Territory of Magellan (Territorio de Magallanes) which embracing nearly one-fourth of the total area of the Republic, extends along the Pacific coast from lat. 47° S. to the southern extremity of South America. On the southeast it is, indeed, separated from the Atlantic Ocean by outlying portions of Argentina; nevertheless the most important eastern outlet is secured to it by Chilean control of both sides of the Straits of Magellan. It has thus practically an outlook upon both oceans; and the main divisions of the Territory are: the islands and channels north of the Straits of Magellan, up to the Peninsula of Taytao; north continental section, central continental section — region of Ultima Esperanza; south continental section — Chilean Patagonia — Peninsula of Brunswick; western islands and channels of Patagonia; islands and channels south of the Straits of Magellan; Tierra del Fuego (Chilean portion); and the islands and channels south and west of Tierra del Fuego. The total area of the Territorio de Magallanes (66,861 square miles, almost equally divided between the continental part and the islands) is much greater than that of Rumania and only a bit less than that of Uruguay. In the

*Censo Jeneral del Territorio de Magallanes*, by Lautaro Navarro Avaria (see *Bibliography*), we read that the territory has received a current of immigration much greater, during recent years, than that which has been available for the development of other portions of Chile; and a great majority of the immigrants have been men who came to take part in sheep-raising and various industries, or who were attracted by not wholly trustworthy reports of the discovery of gold. The inhabitants at the date of the last census numbered only 23,650, with 80 per cent of the population of the Territory concentrated in the city of Punta Arenas and the town (officially designated as a "city") of Porvenir; only about 20 per cent in those portions of the rural districts which are dedicated to stock-farming. The climatic conditions are admittedly unfavorable to agriculture in the widest sense of the term, but sheep thrive uncommonly well on the immense pastures. (See also below: *Mineral Resources and Mining*, and *Education*). Naturally, the maritime traffic of Punta Arenas, despite its geographical remoteness, is very little inferior to that of Valparaiso, because its position on the Straits of Magellan makes it quite inevitably the port at which a thousand vessels — warships, merchant steamers, sailing vessels — call each year, to renew provisions or effect repairs of their engines, or perhaps only to spend a few hours while waiting a favorable moment for passing the more or less dangerous points.

The Juan Fernández Islands, discovered in 1563, but, according to the historian Barros Arana (see *Bibliography*), probably not by the Spanish pilot whose name they bear, are of volcanic origin and were formed in the epoch of the principal uplift of the Chilean Cordillera. They are three in number: the island of Masatierra and its small neighbor, the islet of Santa Clara, at a distance of 360 miles west of Valparaiso, and, 92 miles west of these again, the island of Masafuera. Masatierra has the form of an isosceles triangle whose base measures 13 miles. The distance across it, from north to south, is about five miles and its highest peak 3,300 feet above the level of the sea. The most important part of its coast is the northeastern side of the island, where we find three ports: that of San Juan Bautista, better known as Cumberland Bay, and the still smaller Puerto Frances and Puerto Ingles. Near the shore of Puerto Ingles is found the famous cavern in which Alexander Selkirk is supposed to have dwelt and which for that reason is called Robinson Crusoe's Cave. The few colonists on the island (only 60 or 80 in recent years) cultivate the fields of a valley striking inward from Cumberland Bay.

On this island is the Pass of Villagra, generally called Selkirk's Lookout,— a point commanding splendid views of the ocean and of the deep ravines between sharp-crested mountains whose flanks are clothed with luxuriant vegetation; and one's attention is drawn to the commemorative tablet placed here in 1868 by British officers in honor of the hermit of Juan Fernández, the Scotch seaman, Alexander Selkirk. Santa Clara is about four miles in circumference; Masafuera, uninhabited and without good ports, virtually a mountain rising out of the ocean to the height of 5,940 feet, has a superficial area (estimated) of 33 square miles. The circumstance that these islands have never been united with the continent is clearly shown by the composition of the fauna, which lacks reptiles absolutely and does not include any indigenous species of terrestrial mammals. There are great numbers of goats on all three islands; and these have been compared to the chamois of the Alps, so completely have they reverted to the savage state. Johow and Pöhlmann, in *Estudios*, etc. (see *Bibliography*) are authorities for the statement that wild asses of extraordinary size and strength, as well as wild horses, pigs, dogs, cats, and rats — all illustrate the facility and rapidity with which such reversions to savagery proceed on Juan Fernández. According to ancient accounts, the flocks of goats all proceed from four which were left there at the period of discovery. These multiplied so enormously that in the 17th century British pirates made a practice of resorting to the group for supplies of fresh meat. The Spaniards therefore attempted to exterminate the goats by the introduction of mastiffs from Chile; but the latter also became wild, adapting themselves to their environment and thriving in it without accomplishing the reduction of the numbers of the former.

## Flora and Fauna

The essential characteristics of the Chilean flora were impressed upon it during the long ages of complete isolation, before the Argentine Pampas were lifted up out of the waters that covered them. Even now the country is, on that eastern side, shut in by the Andean Cordillera, and on the north it is cut off from the rest of the continent by the deserts; formerly its separateness was like that of a Pacific island; and so naturally it is distinguished botanically by the large number of indigenous species peculiarly its own. Among these are two genera and five species of *Francoaceæ*, the *skylanthus*, and several species of *cactaceæ*. Mr. Mills writes: "It is believed that the potato

came originally from Chile; it is still found wild in Chiloé and the adjacent islands and mainland. The bean and pepper are also indigenous, and maize and quinoa, whether indigenous or not, were certainly grown in the country before the Spanish conquest." The forests of the Juan Fernández Islands, in so far as they have maintained their primitive character, may be classified with subtropical evergreens, because all their trees and shrubs, with the single exception of the michai (*Berberis corymbosa*) which sheds its leaves in July and August, remain green throughout the year, thus showing adaptation to a temperate and uniform climate. Even a tree by nature deciduous, namely, the peach-tree (*Amygdallus persica*), retains its leaves all winter long when naturalized in Masatierra. Decidedly less noticeable in the fauna than in the flora are the insular or separate characteristics just referred to, although the fauna also differs from that of other South American countries to the extent of excluding jaguars (so common in regions just beyond the Andes), venomous snakes, monkeys, lizards (save in the northen zones), and river turtles. There are 12 genera and 25 species of rodents. In this order are included the beaver-like Coypu and the Chinchilla. Among *carnivora* we find the wild cat, puma, and fox. Characteristic ruminants are: the Huemul deer and the small Pudu (the latter peculiar to Chile), and those wild members of the Llama family, the Vicuña and Guanaco or Huanaco. Birds, great and small, are: The Condor, the white and the black Albatross, Pelican, Giant Petrel, Penguin, Rhea (South American Ostrich), Cormorant, the Barking Guid-guid, Turco, Tapacollo, Gull, Swan, Duck, Parrot, and three species of humming-birds (one peculiar to Chile). Fish, comparatively rare in the rivers, abound in the ocean near the coast and in the channels of Magallanes Territory, and are taken in great numbers in the northern harbors. Chilean waters are also visited by whales and at least six species of seals.

## HISTORY OF CHILE

The dominion of the Incas of Peru included the northern and central portions of Chile — at least to lat. 37° S. In 1535 the Spanish conquerors of the Inca empire sent their first expedition southward along the Pacific coast; but the task of adding this territory to the Spanish possessions in Peru and Upper Peru (Bolivia) was not undertaken in earnest until 1541, nor was it brought to a successful conclusion without desperate fighting in

the second half of the 16th century. Pedro de Valdivia suffered defeat and death in 1553 at the hands of Lautaro, the young Indian leader, and not of the famous Caupolicán as many writers have asserted. Both Barros Arana and Errazuriz deprive Caupolicán of the glory that Ercilla first bestowed upon him. (See *Bibliography.*) The Araucanians offered a stubborn resistance, and even as late as the 18th century they made good their prior claim to a large part of the country below lat. 37° S.



The "Moneda" — Ancient Treasure House, now Government House, Santiago de Chile

## Independence and Adoption of Constitution

In September 1810 was formed the first national government, to rule the country during the captivity of the king of Spain, whom the French held as a prisoner. From that time forward the design to achieve independence was never relinquished, though the events of the years immediately following were of a character to discourage patriotic aspirations. The Chileans were defeated and compelled to return to a nominal subjection; the final success was won with the help of Argentine troops under Gen. San Martin (see Argentina), and the independence of the country was proclaimed in 1818. A constitution, adopted in 1824, and remodeled in 1828, was given its final shaping — substantially the form which it still retains, though modifications demanded by the progress of the country have been made — in 1833. (See under *Government.*) Independence was recognized by a formal arrangement with Spain, and embodied in the treaty of 1844. In 1865, however, a war broke out between the mother country and Chile and Peru, hostilities continuing until 1869. After an interval of peace, the important War on the Pacific, often, though not very felicitously, called "War of the Pacific," began.

### The War on the Pacific

For many years the rights of Bolivia and Chile, respectively, in certain mining lands bordering on the Pacific Ocean remained without definition, but in 1874 an agreement was entered into between the two countries which apparently disposed of the questions at issue. The exploitation of these lands by Chileans increasing, Bolivia saw fit to reopen the dispute by imposing an export tax on the nitrate, or "saltpetre," obtained in Bolivian territory. A Chilean company refused to pay the tax, alleging that it contravened the treaty of 1874. The Bolivian government's reply was an order for the sale by auction of the property of the offending company, on 13 Feb. 1879. Thereupon the Chilean government sent a man-of-war to seize the port of Antofagasta. It soon became apparent that Chile would be obliged to deal with Peru also in this matter; and in fact a secret offensive and defensive alliance against Chile had been formed by Bolivia and Peru in 1873. On 5 April 1879 Chile declared war against the latter republic. Tacna and the neighboring port of Arica were occupied by the presidents of Peru and Bolivia with their troops; the defense of Iquique was entrusted to a sufficient force, and at Lima a reserve of about 10,000 men was held in readiness to meet the Chileans at any point that might be attacked. The plans of the allies seemed to be well laid, and some initial successes fell to their share.

### Capture of the Huáscar

Two Chilean warships, the Esmeralda and the Covodonga, blockading Iquique, were attacked by the Peruvian frigate Independencia and the monitor Huáscar. The Esmeralda was sunk by the Huáscar, but the latter vessel on 18 October fell in with the Cochrane and Blanco of the Chilean navy north of Point Mejillones. A fight of great severity ensued. Only 86 men were left alive on board the Huáscar, out of her complement of 216, when she was obliged to surrender. This vessel was repaired and added to the Chilean navy.

### Triumph of Chile

Pisagua was captured from the Bolivians by Chilean warships. On 18 Nov. 1879, the allies were defeated in the battle of San Francisco, but before the close of the same month they scored a dearly bought success against the Chilean forces in the battle of Tarapacá. Chilean divisions commanded by Gen. Baquedano

invested the town of Moquegua, and on 23 March 1880 entered Torata. Two months later a decisive contest occurred, the city of Tacna (now the capital of the Chilean province of that name) being taken on 26 May. The troops of the allies, including 5,120 Peruvians and 3,200 Bolivians, commanded by Admiral Montero, and the Bolivian president, Gen. Campero, sustained a crushing defeat. Arica, the port of this district, was attacked by the land and sea forces of Chile in June, and fell after making a desperate resistance. In order to emphasize the defeat and to cripple the more important members of the alliance, the Peruvian coast was laid waste, Mollendo was destroyed, Callao and other ports blockaded, and an expedition under Baquedano's command made ready to proceed to Lima. See PERU.

### Acquisition of Territory

As the fruits of her victory, Chile took from Bolivia the districts of Cobija and Atacama; from Peru the coast line north of the Bolivian possessions to, and including, conditionally, the province of Tacna. Thus Chile's territory on the Pacific was extended northward from the old boundary, at lat. 24° S. One of the allies was cut off from communication with the outside world by way of the Pacific Ocean; and a strategic frontier was established against the other ally. A truce, instead of a treaty, was concluded between Bolivia and Chile after the war, the sentiment of the Bolivians being utterly averse to any permanent arrangement which did not give them access to the sea. Renewal of negotiations for a definite treaty, which should include the concession of a seaport, was repeatedly urged by Bolivia, but without effect.

### Treaty of Ancón

Peru, by the terms of the treaty of Ancón (1883), surrendered to Chile absolutely the valuable nitrate district of Tarapacá, but with respect to the Tacna-Arica region a peculiar convention was made. It was agreed that Tacna-Arica should be governed by Chile for a period of 10 years, and that at the end of the decade the vote of the inhabitants should decide whether it would be better for the province to revert to Peru or to be administered by Chile in the future — the country thus rejected by popular vote receiving from the other country $10,000,000 silver by way of compensation. Over 32 years have passed, and the Peruvian government has repeatedly urged fulfilment of the treaty, but the

plebiscite has not yet been held. The regions that changed hands then, now form the northernmost zone of Chile, which we mentioned above. (See *Topography and Climate.*) The Bolivian frontier was settled by the treaty of October 1904.

### Balmaceda

Some of the amendments to the constitution which we have referred to above were adopted before the outbreak of the war with Peru and Bolivia; they embodied the liberal ideas which, in 1874, triumphed over the conservation of the proprietors of large estates — a class practically dominating the government's policy up to that time. The most forceful of the liberal leaders who effected this important political change was Balmaceda, a member of Congress in 1868, minister to the Argentine Republic at the time of the war with Bolivia and Peru, and, in 1885, elected to the presidency of the republic. The conspicuous success of President Balmaceda in his advocacy of measures relating to internal improvements, a system of popular education, the separation of Church and state, etc., created bitter antagonisms. United in opposition to him were all those who disapproved of his vigorous liberalism on principle, and all who were jealous of his power as an individual. In 1888 his cabinet was overthrown; his unyielding attitude in this crisis provoked an armed revolt; and the country was plunged into civil war, the operations of the forces of the revolutionists being directed by a junta representing Congress, and the president somewhat too readily assuming the powers of a dictator for the defense of his position. Balmaceda was defeated, and died by his own hand on 19 Dec. 1891.

The effect of this civil war upon Chile's foreign credit was deplorable. With characteristic enterprise her people have developed the resources of the country in many new directions, yet the utmost wisdom and firmness in the administration of her government have been required to bring about even such conditions of the national finances as we shall presently record. On the other hand, the country was fortunate in escaping a serious foreign war.

### The Baltimore Incident

The opinion prevailed in Chile when this conflict was at its height that the United States government, through Minister Patrick Egan, was showing favor to the cause of Balmaceda, and discriminating against the congressional party. The fierce resentment felt by the latter expressed itself in an attack upon sailors

of the United States cruiser Baltimore, who became involved, while on shore, in a brawl with Chilean sailors. There was a riot of the populace in the streets, and several of the Baltimore's men were seriously or mortally wounded. When a report of this indignity reached Washington, suitable representations were made by the authorities there, but unfortunately it was necessary to address such representations to a merely provisional government at Santiago. The latter not only refused the demand for satisfaction, but also insisted in discourteous terms that the men who had been assaulted should be handed over to Chile for trial as criminals. An improvement in this threatening situation occurred when the management of Chilean affairs was entrusted to President Montt, and when the demand of the United States was emphasized by the sending of two additional warships to Chile. The new president tendered apologies for the discourtesy of the provisional government, as well as for the attack upon men wearing the uniform of the United States; and compensation was made to the wounded sailors, or to the families of those who had died.

### The Argentine-Chile Boundary Line

Chile and Argentina had agreed that their common boundary should be a line running along the crest of the Andes, which was supposed to be the watershed throughout,— which is not the fact. Discovery of their error occasioned disputes at first, and finally a resort to arbitration. By mediation of the ambassador of the United States, an agreement was reached as to the northern districts; the more intricate southern portion was surveyed by a boundary commission under Sir T. W. Holdich; and King Edward of England, as arbitrator, issued the award in 1902.

### Arbitration and Limitation of Naval Armaments

On 28 May 1902, the plenipotentiaries of Chile and the Argentine Republic concluded two important agreements, the first of which provides for the arbitration of all questions not affecting constitutional precepts, or that cannot be settled by direct negotiations. It is entitled a "General Treaty of Arbitration," and the desire is expressed in its introductory clause "to settle by friendly methods whatever questions may arise between the two countries." The second agreement is entitled a "Convention on Naval Armaments," which has "the object of removing all causes of anxiety and suspicion." The two governments "renounce the acquisition

of the war vessels they have in construction and the making for the present of any new acquisitions"; agreeing, moreover, to reduce their respective fleets until they arrive at "a prudent equilibrium."

### During the Last Decade

A violent earthquake occurred on 16 Aug. 1906, Valparaiso suffering greatly. Diplomatic relations with Peru were severed in 1909. On 10 July 1911 King George of England rendered his award in the long-standing Alsop claim, assigning $935,000 to the Alsop firm. The original amount of the claim was $3,000,000 with interest. Chile paid the amount 13 November through the Government of the United States. In 1913 the railway from Arica on the coast of Chile to the Bolivian plateau was completed. The control of this railway is to be retained by Chile for 15 years, that is, until 1928. In 1915 the Republic of Chile was feeling very keenly the effects of the great war: the suspension of her credit in Europe, loss of her export market, and the obligation to secure her imports from new sources. *The American Year Book*, New York 1916, says in regard to the destruction of the German cruiser *Dresden* by a British fleet in the territorial waters of the Juan Fernández Islands: "Chile protested to Great Britain and received an apology, stating that the *Dresden* had not accepted internment and that it was destroyed to protect shipping. This apology was accepted by Chile. Germany sent an energetic protest to Chile, denying the allegations of the British note and demanding satisfaction. This protest was returned by Chile." On 25 May 1915 Señor Alejandro Lira signed the A. B. C. peace treaty at Buenos Aires. President Juan Luís Sanfuentes, representing the Liberal Democrats or new Balmacedists (see above) took office 23 Dec. 1915.

## GOVERNMENT

The Constitution of 25 May 1833 is still in force, though repeatedly amended. That fundamental law established for Chile a form of government, with legislative, executive, and judicial branches, which at first sight appears to be genuinely republican: but the oligarchical tendencies are much stronger than those observed in any other South American country. (See LATIN AMERICA — *Governments*, p. 14.)

The legislative power is vested in the national Congress, which is composed of two chambers: (1) The chamber of sena-

tors, with members elected for a term of six years by direct vote and by provinces, in the proportion of one senator to each three deputies; (2) the chamber of deputies, with members elected for a term of three years. To represent Congress in the period of its recess, there is a Permanent Committee of 14 members, one-half chosen by each chamber.

The President of the Republic holds office for five years, and he cannot be re-elected for the next consecutive period. A Council of State, composed of 11 members, some of whom are appointed by the President, and others by the chambers, has the power to intervene in certain appointments, and its consent is necessary for the promulgation of the laws, the granting of pardons, and some other matters. This council is not to be confused with the cabinet, in which are but six ministers or secretaries, to wit: The minister of the interior; of foreign affairs; of justice and public instruction; of war and the navy; of the treasury; of industries and public works.

The judicial branch of the government comprises: The supreme court of justice, located at Santiago, and composed of seven members, with authority over all other tribunals of the republic; the court of appeals, for the great districts of Tacna, Serena, Valparaiso, Santiago, Talca, and Concepción; one or more justices of the peace in each department of the republic; and sub-delegation or minor district judges. Juries exist only for suits involving the question of abuse of the freedom of the press.

Senators must be not less than 36 years of age, and must have a fixed income. Deputies also must be not less than 36 years of age; and, like the senators, they must be possessed of a fixed income, and, also like senators, serve without salary. Every married male Chilean of 21, or unmarried man of 25, not civilly disqualified by judicial act, is an elector. It is provided, however, that he must be able to read and write, and must have a certain amount of property. The literacy test disfranchises more than one-half — perhaps even seven-tenths — of the possible electorate. Of course this makes the members of the Congress the choice of a few electors; moreover candidacy is strictly limited by the provision that senators must have a fixed income of not less than $2,000, and deputies of not less than $500 per annum.

The President, who must be a native Chilean of not less than 30 years of age, is Chief of the Executive branch. He is elected by representatives who are themselves, by direct vote of the whole electorate, sent to a special congress for the purpose. The President is forbidden to leave the country either during his term

of office or in the following year without sanction of Congress. His salary is $15,000 per annum. He is assisted, or hampered, by a Council of State of 11 members, five of whom he appoints, while six are appointed by the senate. With the sanction of the Council of State, the President may convene extraordinary sessions. In the event of the President's death or abdication, the Minister of the Interior becomes Vice-President and Chief of the Executive branch. The President is, ex-officio, Chief of the army. The Executive is represented in each department by a public prosecutor, who initiates civil and criminal prosecutions, and is an officer dependent on the Ministries of Justice and of the Interior. Limitations of the presidential influence and its subordination to the legislative power appear very clearly in the circumstance that the cabinet must resign if it encounters an adverse vote in Congress. As Professor Ross (see *Bibliography*) has expressed it, the cabinet of the Chilean President "does not have even the privilege the British cabinet has of dissolving Parliament and ordering a new election. Balmaceda tried, against the will of the congressional oligarchy, to obtain a revision of the Constitution which would give the President something like the place he has in the Government of the United States." Reference to Balmaceda and the Balmacedist or new Balmacedist party is made above, in *History*.

## AGRICULTURAL AND PASTORAL INDUSTRIES

The extent of lands capable of being utilized for agriculture is, according to respectable estimates, somewhat more than 146,000 square miles; but one-half of this is covered by forests and woods, a little more than one-eighth is properly pasture-land, and one-tenth irrigated areas or those which can readily enough be made productive by irrigation. About one-fourth (or, say, one-eighth of the total area of Chile) may be classed among plains not requiring irrigation, though the special utility for this purpose of the annual floods we have mentioned above (see *Topography*) has been well understood, and the soil has been built up by silt brought down in the flooding mountain streams. The main crops are wheat, maize, barley, potatoes, rye, oats, and forage plants. In the irrigated valleys of the north — in Tacna, Tarapacá, Atacama, and Coquimbo — maize gives two crops annually. Other products are: grapes, many of the subtropical fruits, tobacco,

sugar-beets, honey, and hemp. "Vineyards are planted," says Mr. Mills, "from the northern extremity to Llanquihue. Of course, in the north, from Tacna to Aconcagua, it is the slopes of the irrigated valleys that are clothed with the luxuriant green of the vines." And in these irrigated valleys, from Atacama to Chile's northern boundary, there are generous crops of figs, pomegranates, and olives. Some of the Chilean tropical fruits are exceptionally fine. There is an immense grazing area in Magallanes Territory, near the Straits of Magellan; and sheep and cattle thrive in that part of the country. The horses bred in the central zones are short-bodied but powerful animals. Many conditions favoring agricultural development are certainly present; but other conditions as certainly are very unfavorable. Nearly all the agricultural land of the Central or Longitudinal Valley — especially from Cautin up to Aconcagua, though we may as well add the provinces of Valdivia and Llanquihue on the south and Coquimbo on the north — is in the hands of wealthy families of Spanish descent or others who have been, as Mr. Mills puts it, "absorbed into the local oligarchy." He says quite truly that "although the law provides that land shall be divided up into equal shares among all children, a kind of patriarchal system prevails; and although a mansion or hacienda may shelter a group of families, the agricultural estates themselves are not split up. Consequently in these central provinces large estates are the rule." There is little modern enterprise; antiquated agricultural methods are still favored; leisurely and wasteful ways persist. "But it must be confessed that life on the haciendas is often very pleasant. Many of the houses are large, well built, delightfully equipped, and money is plentiful." In the irrigated valleys of the north also much of the land is held by the ruling classes. It is true that there remain districts not yet absorbed by the land barons, but the "chief" drawbacks of these are isolation and lack of transport facilities as well as of labor.

In 1913–14 the principal crops, with their acreage and production were as follows: Wheat, 1,018,382 acres, 8,787,852 cwts.; barley, 152,625 acres, 2,386,157 cwts.; oats, 121,615 acres, 1,267,815 cwts.; maize, 58,609 acres, 752,791 cwts.; beans, 76,188 acres, 737,626 cwts.; potatoes, 81,299 acres, 197,338 tons; vines, 162,902 acres, 45,981,056 gallons of wine. On 31 Dec. 1913 the live stock of Chile comprised 457,845 horses, 38,193 mules, 1,968,620 oxen, 4,602,317 sheep, and 221,384 pigs. Dairy farms and the production of butter and cheese are on the increase. In Patagonia and Tierra del Fuego large tracts of country are devoted to sheep-farming.

## LABOR

A system of management which is a direct outgrowth of the conditions described in the second part of the foregoing paragraph prevails on the large estates; and that is equivalent to saying, as we have shown, throughout all the best agricultural districts. A landed proprietor allows any farm laborer to take up as much land as the latter can till with the assistance of his family. The laborer pays no rent, and the produce of the land is his own; but he has to sell his services to the landlord, whenever need for them arises, at less than one-half of the prevailing local rate. Thus a permanent supply of labor is secured by the landlord, and occasional employment by the laborer, or *inquilino*, as he is called (Lat. *inquilinus*, Sp. *inquilino*, tenant; compare *peón*, day-laborer). Now, these *inquilinos*, although securing the use of land on terms that appear to be easy, have to learn by bitter experience (their only way of learning anything) that they are obliged to work for the landlords at the very time their own little farms need attention. The evils of the system are felt by both landlord and tenant; since the *inquilinos*, whose own farms are perforce under-cultivated by women and children naturally render apathetic and inefficient service on the big estates. Contributory to the maintenance of such economically unsound arrangements is the character of the peasantry. There is a strong element of Indian blood (Araucanian, etc.) in the Chilean laboring classes generally; and it has been observed that, although hardy and fairly hard-working, when well directed, they cannot easily be transferred from one place or occupation to another; they lack enterprise but have patience when sober and uncommon powers of endurance at all times. Professor Ross (see *Bibliography*) asserts that the dominant class of landed proprietors in Chile was, as a whole — though unquestionably such a generalization must admit of many favorable exceptions — not averse to the perpetuation of the régime of paper money, under which the peso fell far below its former value; and the impression Professor Ross received was that, so far as this disposition existed, it was attributed to the circumstances that when the peso depreciated farm wages did not rise in equal or corresponding degree, and that therefore the cost of labor to the hacendado or landlord was reduced by a substantial amount. But when we consider labor conditions in the cities and factories, or as they affect employees on the railways, we find Chilean laboring men who are

beginning to have clear ideas in regard to abuse of privilege. A general strike occurred in 1913; a labor deputation visited the President of the Republic; and the demands of the strikers included the redemption at par of the paper currency — the legal tender currency being worth only 20½ cents at the time. Other demands were: recognition of employers' liability for accidents, establishment of an eight-hour working day, etc. The Chilean Government has recently adopted measures of consideration for mothers working in factories. A special room is provided in factories where mothers may keep their children under one year of age, and mothers may spend one hour of the working-day in caring for their children without any loss in wage.

## MINERAL RESOURCES AND MINING

The deposits of nitrate of soda, or Chilean saltpetre (*salitre*), are in Tacna, Tarapacá, Antofagasta, and Atacama, and their preservation is due to the rainlessness of those northern provinces. Measured from north to south, the deposits extend about 300 miles. Less than one-fourth of the total area of the *salitreras* has as yet been thoroughly investigated; but surveys of 2,242 square miles in that region which was once the bed of an inland sea was followed by the publication of the statement that 244,000,000 tons remained as a supply for the future. The annual exportation of *salitre* exceeds 2,000,000 tons; in value this amounts to five-sixths of the value of the entire export trade. But the value of the exports of nitrate in 1915 was only $77,981,158, as compared with $111,454,397 in 1913. The development was "below normal" for reasons stated under *Banking and Finance*. (See also *Commerce* — concluding paragraphs.) The revenue from the export tax on nitrates and iodine (really a by-product of the extraction of nitrate from the raw ore) is more than two-fifths of the entire public revenue ($30,000,000 out of less than $75,000,000).

Next in importance are copper ores, which abound both in the ancient cordillera of the coast and the lower slopes of the Andes in the central and northern zones. We read in the *Memorandum by Chile*, p. 563 of the interesting reports of *Proceedings of the First Pan American Financial Congress*, held at Washington in May 1915, that "the copper output of Chile is increasing, owing to the development of large copper properties in which North American capital is invested." Chiefly as a result of such

development, general copper exports advanced from $10,337,351 in 1913 to $15,143,802 in 1915. Iron mines in the Coquimbo district are also being developed by American capitalists. Large quantities of gold were obtained during the first century of the Spanish conquest by the use of unpaid native labor. In the 18th century the output of silver was large enough to be, perhaps, misleading. Chile is much less a land of precious metals or precious stones than the equatorial lands of South America; but, in addition to copper and iron, Chile has coal. "Coal is found," says the memorandum cited above, "in various sections of the country, but the principal mining centre is the coastal region south of the river Bio-bio, as far as the port of Lebu. Deposits have been found still farther south." The coal fields of the Province of Arauco, it is estimated, "contain over 1,800,000,000 tons. The coal mining companies have invested in this industry over $7,500,000 and now produce over 1,000,000 tons of coal per year." The product of these mines is from 10 to 20 per cent below the standard in the United States and Great Britain. It is used in the factories at Lota and Coronel; on Chilean steamers, railways, etc. The most interesting development of coal mining in South America is at Lota and adjoining regions in the Province of Concepción. Next, we consider the southern part of Chile; and it is a pleasure to find in that part of the world a region for which the claim is not advanced that it excels all others in mineral wealth. The Territory of Magellan has no mineral resources that can be compared with those of the provinces of the north and centre of the republic. Exploitation of minerals is effective at only two points: we refer, first, to the veins of coal (more strictly speaking, lignite), not of the best quality, which for a number of years have been mined at the Loreto, near Punta Arenas, and, second, to the copper ores obtained at Cutter Cove on the Peninsula of Brunswick. There remain to be mentioned, so far as our knowledge extends at the present time, only the washings of auriferous soils at some points in Tierra del Fuego and the Minas River; bitumen or asphaltum (of which there are indications); petroleum (doubtful); and calcareous and other salts. A very modest list; and we desire to emphasize the impossibility of obtaining exact information when mining enterprise is still in the initial period — the period of study and preparation.

The number of work-people employed in mineral workings in 1914 was 71,106, of whom 43,979 were engaged in nitrate of soda workings, 8,105 at coal mines, and 11,142 at copper mines.

## MANUFACTURES

The more important of the industries of Chile, after the chemical and metallurgical, are those concerned with the manufacture or preparation of food substances, beverages, textiles, clothing, leather, woodworking (including furniture and carriage building) and pottery. In 1914 there were over 6,200 factories, employing about 80,000 operatives, of whom 20,000 were women and nearly 7,000 children.

## TARIFFS

Imports, being subject to specific duty or charges by weight (instead of *ad valorem* duty, as in the United States), may be dutiable on net weight, gross weight, weight including packing, or weight including containers. No brief statement can summarize the various regulations prescribing the imposts on all classes of goods except those which, from motives of public policy, are admitted duty-free; but it is important to note that the application of a specific tariff results in the payment of identical duties on articles having the same name and general description, even though there may be a wide range of quality. To make this quite clear and to emphasize the difference between the Chilean practice in this respect and the practice in the United States, a concrete instance may be cited, as follows: Suppose two different articles, one worth $1,000 and the other $2,000, were imported into the United States. The duty, if calculated on an *ad valorem* basis of 40 per cent, would be respectively $400 for the first and $800 for the second. But if these articles should be imported into Chile, the duty would be assessed regardless of the difference in quality. The definite effect is, obviously, to encourage the importation of costly articles. (Consult Filsinger, E. B., *Exporting to Latin America*, New York and London 1916.)

## COMMERCE

In 1915 the value of Chile's imports from the United States was $17,800,611; in 1914, $13,627,618; and in 1913, $16,616,618. (Compare *The Americas*, March 1916.) In the last normal year before the war in Europe, 1913, the figures for Chile's foreign commerce were: Imports, $120,274,001, exports, $144,653,312; Great Britain leading in both exports and imports, followed by Germany, the United States, and France. Chile's principal exports were:

Nitrate of soda, 2,666,000 tons (metric tons of 2,204.6 lbs. in this item and each of the following); copper concentrates, 69,106 tons; oats, 53,515 tons; wheat, 52,291 tons; borate of lime, 42,011 tons; copper, 37,712 tons; bran, 14,855 tons; iron ore, 14,100 tons; wool, 12,786 tons; beans, 10,840 tons; hides, 5,881 tons; wheat flour, 5,612 tons; whale oil, 3,109 tons; iodine, 437 tons. The 12 leading Chilean ports, whose rating is based upon the value of their imports, are, in the order of such rating: Valparaiso, Talcahuano, Antofagasta, Iquique, Resguardos, Valdivia, Punta Arenas, Taltal, Coronel, Tocopilla, Coquimbo, and Correos. On the other hand, the twelve leading in exports take rank as follows: Iquique, Antofagasta, Mejillones, Tocopilla, Taltal, Caleta Buena, Valparaiso, Coloso, Punta Arenas, Pisagua, Junin, and Talcahuano. The imports during 1914, as classified by the Central Statistical Office of Chile, were, with values in U. S. gold: Oils, varnishes, paints, and coal, $18,478,181; textiles, $17,838,117; mineral products, $15,972,919; vegetable products, $14,161,999; machinery, instruments, tools, and apparatus, $11,192,688; arms, ammunition, and explosives, $8,639,150; animal products, $5,755,723; perfumery, pharmaceutical and chemical articles, $2,555,533; paper and cardboard and manufactures thereof, $2,467,004; beverages, $1,497,261; miscellaneous, $1,269,609. The effect of the European War upon Chilean commerce is described in the following paragraphs:

"The United States in 1915, for the first time, ranked first both in exports from and imports into Chile, receiving more than 42 per cent of Chilean exports and selling to Chile more than 33 per cent of the goods imported. Before the European War, the order of importance of countries in trade with Chile, both export and import, was Great Britain, Germany, and the United States. But while the exports from Chile to the United States were $18,765,000 greater, the imports from the United States were $1,510,121 less in 1915 than in 1914. In other words, the increase in exports to the United States was greater than the total amount of imports from this source." (Supplement to *Commerce Reports*, Annual Series, No. 41b, 10 Nov. 1916.) In fact, the total imports from all countries showed a decrease of $42,538,977, while the total value of exports to all countries showed an increase of $10,179,052 in 1915 over 1914.

### Imports and Exports by Countries

The statistical tables herewith show a general disorganization of both import and export trade due to the war.

The following table shows the value of imports and exports of Chile in 1915, by countries of origin and destination, respectively:

| Countries | Imports from in 1915 | Exports to in 1915 |
|---|---|---|
| Argentina | $2,150,681 | $6,889,474 |
| Australia | 1,203,806 | 1,971,569 |
| Brazil | 1,180,948 | |
| Egypt | | 2,388,284 |
| France | 1,709,483 | 3,534,091 |
| Germany | 5,685,589 | |
| Italy | 1,732,891 | |
| Japan | | 1,279,629 |
| India | 2,768,640 | |
| Peru | 4,702,542 | |
| Russia | | 1,827,425 |
| United Kingdom | 13,288,633 | 40,582,411 |
| United States | 18,038,455 | 50,199,244 |
| Other countries | 4,015,980 | 11,794,288 |
| Total | $55,922,218 | $117,606,364 |

## Principal Imports and Exports, by Articles

The principal articles imported into and exported from Chile in 1915 are listed, with their value, in the following statement:

IMPORTS

| Articles | 1915 |
|---|---|
| Agricultural machinery | $115,296 |
| Belting for machinery | 163,761 |
| Cars, carriages, other vehicles, and parts of: | |
| Automobiles | 306,465 |
| Cars, railway, freight, and passenger | 69,369 |
| Car wheels, railway | 78,132 |
| Breadstuffs: | |
| Flour, wheat | 2,965,390 |
| Rice | 1,106,187 |
| Wheat | 407,077 |
| Cement | 574,739 |
| Coal | 3,002,614 |
| Cocoa | 366,102 |
| Coffee | 1,102,809 |
| Cotton, and manufactures of: | |
| Cloth, white | 901,208 |
| Drill | 218,600 |
| Knit goods | 211,913 |
| Linings and dresses | 891,700 |
| Sacking | 324,844 |
| Thread | 210,386 |
| Yarn | 868,856 |
| Electric light equipment: | |
| Bulbs | 166,790 |
| Machinery and supplies | 80,635 |
| Wire | 101,443 |
| Explosives: Dynamite | 477,838 |
| Fibers, and manufactures of: Jute sacks | 2,271,125 |
| Glass, and manufactures of: | |
| Glass | 65,108 |
| Glassware | 49,384 |
| Hats, wool felt | 149,025 |
| Iron and steel, and manufactures of: | |
| Bars | 294,316 |
| Beams | 203,269 |
| Firearms | 486,874 |
| Machinery — | |
| Electrical machinery and supplies | 333,198 |
| Industrial machinery and supplies | 337,814 |
| Locomotives | 245,908 |
| Mining machinery | 326,510 |
| Motors, industrial | 227,058 |
| Sewing machines | 55,644 |
| Parts of machinery | 1,203,118 |
| Sheets: | |
| Galvanized, corrugated | 317,462 |
| Plain | 83,060 |
| Tools | 49,173 |
| Wire | 205,069 |
| Meat and dairy products: | |
| Lard | 182,970 |
| Leather and leather goods: | |
| Leather | 294,523 |
| Boots and shoes | 127,902 |
| Oils: | |
| Edible | $891,658 |
| Linseed | 81,364 |
| Kerosene, benzine, naphtha, and gasoline | 633,288 |
| Petroleum, crude | 3,712,768 |
| Paints, mixed | 129,849 |
| Paper, and manufactures of: | |
| Books, printed | 142,452 |
| Paper — | |
| Print | 868,845 |
| Writing | 88,173 |
| Silk manufactures: | |
| Cloth | 217,812 |
| Clothing, women's and girls' | 63,169 |
| Spirits, wines, etc.: Whisky | 170,807 |
| Sugar, granulated | 2,415,411 |
| Tea | 749,438 |
| Tobacco, leaf and cut | 126,377 |
| Waxes: Paraffin | 612,872 |
| Wood, and manufactures of: | |
| Unmanufactured: Pine, rough | 301,741 |
| Manufactured: Furniture | 69,549 |
| Wool, and manufactures of: | |
| Cashmere | 643,824 |
| Cloth, other than cashmere | 419,842 |
| Clothing — | |
| Men's and boys' | 94,697 |
| Women's and girls' | 62,026 |
| Yarn | 65,200 |
| Yerba maté | 808,008 |

EXPORTS

| Articles | 1915 |
|---|---|
| Barley | 1,677,978 |
| Beans | 604,448 |
| Beeswax | 119,870 |
| Clover seed | 217,578 |
| Copper: | |
| Bars | 7,153,916 |
| Concentrates | 1,867,234 |
| Ore | 1,912,313 |
| Cowhides | 918,026 |
| Honey | 118,970 |
| Iodine | 2,186,994 |
| Leather, sole | 261,342 |
| Lumber | 252,351 |
| Nitrate | 77,147,063 |
| Quillay bark | 132,857 |
| Walnuts | 602,773 |
| Whale oil | 254,849 |
| Wheat | 199,773 |
| Wool | 3,631,826 |

*Commerce Reports* (issue dated 29 Jan. 1917) gives prominence to the statement of a Chilean firm to the effect that liberal selling terms, a knowledge of the requirements and financial capacities of their customers obtained by means of their selling or banking agents, and a quick adaptation to customs and needs of the trade had given European manufacturers a chance to penetrate thoroughly the South American markets, excluding all other competitors; but that the present war has changed this state of affairs to such an extent that " nowadays North and South America look upon each other as the natural sources for their supply and consumption, a thing they should have done long before." The difficulties encountered by South American firms desiring to establish permanent importing business-relations with North American manufacturers and exporters are ascribed: 1, to lack of cheap freights and regular and frequent steamship connections; 2, to unsatisfactory means for consigning shipping documents and discount of banking values; 3, to long and uncertain deliveries; 4, to the circumstance that " goods forwarded to South America have proved on some occasions to be inferior to quality offered "; 5 and 6, to the further circumstances that American prices are usually higher than European and there are no standing quotations; 7, to careless packing and marking, and incomplete details on shipping documents; 8, to a " wrong idea ", prevalent in the United States, that South Americans " are not ' up to business,' " as business is understood in northern countries. South American business routine does, indeed, differ in certain respects from that of the north; nevertheless commercial transactions can be established upon a perfectly correct and satisfactory basis.

## CURRENCY

Although Chile is nominally on a gold basis, the currency is inconvertible paper. Hitherto there has been no limit to the fluctuations in the exchange quotations, because there has been no fixed unit of value as a basis for rates. A theoretical unit does indeed exist, namely, the gold peso, representing 0.599103 grammes of gold .91666 fine, or, say, 0.54918 grammes pure gold, of which the par value in terms of currency of the United States is $0.365, and its equivalent in British currency, 18d. But this law is not in operation, and the actual circulation is composed of Government notes which are quoted on the market at rates fluctuating between 9 and 11 pence per peso. In 1915 the rates fluctuated in

the neighborhood of 7½d., thus showing a depreciation in the paper currency of about 25 per cent. The action of the Government in authorizing its Conversion Office to issue notes against gold at a fixed rate of 12 pence per peso indicates the possibility of the adoption of the gold exchange standard, in a manner analogous to that of Argentina (q.v.), Brazil, Mexico (in time of peace), and Panamá. The basis of exchange in Chile is the 90-day London bill, which is quoted in terms of pence per one paper peso (Consult: *Latin American Monetary Systems and Exchange Conditions*, by Joseph T. Cosby, New York 1915, and *Modern Foreign Exchange*, by V. Gonzales, 1914.) Rates of exchange prevailing in Chile before the European War contrast with those prevailing in 1915, as follows: New York — sight — currency of U. S.— $1.00 = 5.06 Peso paper, on 7 Feb. 1913, but 6.64 Peso paper on 23 May 1915; London — 90 days — 10 1 32d.= 1.00 Peso paper on 7 Feb. 1913, but 7¾d.= 1.00 Peso paper on 23 May 1915.

## BANKING AND FINANCE

Banks with offices in Santiago or Valparaiso or both are: Banco de Chile, Banco de Santiago, Banco Aleman Transatlantico, Banco Nacional, Banco Comercial de Chile, Banco Español, Banco de Chile y Alemania, The Anglo-South American Bank, Ltd., Edwards y Compañia, Banco Germanico de la America del Sur, London and River Plate Bank, Deutsche Sud Amerikanische Bank Akt. Ges., Banco de la Republica, Banco Italiano, Banco Frances de Chile. Many have established branches. Thus the Anglo-South American, with headquarters in London, has branches not only at Santiago and Valparaiso, but also at Punta Arenas, Chillán, Coquimbo, Copiapó, Serena, Iquique, and Antofagasta. In the provinces we find, beside branches of the foregoing, The Banco de Concepción, Banco de Talca, Banco de Curico and Banco Comercial de Curico, and Banco de Punta Arenas. The Banco de Chile is regarded as the official banking house of the Government, though not strictly a Government bank. There is, in fact, no Government bank in Chile. The views of a distinguished writer have been expressed recently in the following terms: "Banking business is carried out on rather more conservative lines than in most Latin countries, but interest is allowed on current and deposit accounts, and advances are made rather more freely than is the habit with English joint stock banks. In the German, Italian, and Spanish banks we find a certain amount of co-operation

of the home banks supporting the Chilean houses, which adds greatly to their strength and influence, especially in financing big commercial undertakings." A Government institution known as the Caja de Crédito Hipotecario lends, on lands and buildings, 50 per cent of their market value. A private concern called the Banco Hipotecario de Chile carries on a similar business; and, organized under the same law (that of 1857), we find to-day the private institutions: Banco Garantizador de Valores, and Banco Hipotecario de Valparaiso. The function of all four is, primarily, to assist agriculture by making loans on real estate for long terms. Savings banks in Chile are of relatively modern origin. In the course of 20 years deposits have increased more than 20-fold in these " cajas de ahorros ", as they are called. Foreign banks, duly incorporated, may open branches in Chile; there is, however, at present a project of law requiring them to invest or maintain in Chile the capital they declare for use in that country, and limiting the deposits they can receive in proportion to such capital. There are six foreign banks doing business in Chile, each having many branches. A comparison of the financial movement during the year ending 31 Dec. 1914 with that for the previous year " shows that the European War caused "— such is the statement in a memorandum by Chile mentioned above — " no impairment of the integrity of the banking situation, notwithstanding the fact that the foreign banks were constrained to remit to their home establishments the greater part of the funds that they had in the country." But it is necessary to place beside that statement another statement entitled " The Finances of Chile " in *The Americas* (Vol. I, No. 3), to the effect that the nitrate industry of Chile suffered perhaps more severely than any other industry of a neutral state, because approximately two-thirds of the nitrate exports before 1914 were taken by Germany and Austria-Hungary, and these, of course, were cut off; that the effect upon the general business situation was serious, and the government was a direct and heavy loser in its revenues. Fortunately the government had large gold credits in Europe. These credits are understood to have been accumulated for the purpose of establishing the currency system on a gold basis; but, inasmuch as they are available for discharging other government obligations, it seems probable that the gold standard will be postponed.

The total funded public debt, as shown by recent figures, amounts to $215,280,035, of which $173,644,000 is on account of external, and $41,640,035 internal loans. The first public loan was for $5,000,000, raised in London in 1822. Others followed, and all

were paid off. Then, from 1885 to the present time, Chile placed a series of loans, sometimes (as in 1889) on very favorable terms; and it is scarcely necessary to say that the acquisition of the nitrate fields, after the successful war with Peru and Bolivia (see above: *History*), placed a vast source of wealth at Chile's disposal, enabling her to meet all requirements of the government, including the large increase in expenditures by the war and navy departments; but this, unfortunately, did not prevent the excessive issue of paper to which we have referred. The annual expenditure approximates $70,000,000 gold ($7,460,000 for the Dept. of Interior; $1,470,000 Foreign Affairs; $2,160,000 Justice; $6,800,000 Navy; $7,400,000 War Dept.; $5,280,000 Public Works; $15,400,000 Government Railways; $9,000,000 Public Debt Service, etc.). The budget provides annually for the development of water and drainage-systems in the chief cities and for the construction of port works, which will represent an outlay, when completed, of more than $26,000,000. The revenues and expenses of the country have increased in 20 years as follows: In 1894, income $25,945,000 and expenses $20,739,000; in 1913, the last normal year before the war, the fiscal revenue amounted to $77,575,000 and expenses amounted to $80,800,000; the budget for 1914 attained the sum of $95,520,000; in 1915 the fiscal budget was reduced to $63,362,000, approximately.

## TRANSPORTATION AND COMMUNICATION

The Longitudinal Railway, with a total length of 1,957 miles, extends from Iquique to Puerto Montt, through the Longitudinal or Central Valley (see above: *Topography*) and with branches to the chief ports. Thus a double system of intercommunication, by both land and water, is maintained. Besides this central line there are three transandine railways and the independent lines of the nitrate fields — in all, 4,521 miles. Other lines under construction increase the total to 5,684 miles (3,541 owned by the Chilean Government and 2,143 miles privately owned). The Trans-Andean line, viâ Juncal, was completed in 1910. It connects Santiago, from Llai-Llai, with Mendoza, on the Argentine side of the Cordillera of the Andes. Another mountain-climbing line is the international railway from Antofagasta to Oruro and La Paz in Bolivia, a distance of 719 miles. A railway built by the Chilean Government with the co-operation of Bolivia connects the port of Arica with La Paz. This road — a short line between the



Port of Valparaiso, Chile

Bolivian plateau and the Pacific coast, was opened to traffic in 1913. Steamship routes are, at present, still those which were followed in Colonial days, although a single Japanese line crosses the Pacific. Between Panama and Valparaiso, with calls at all the larger ports, and occasionally at the smaller ones also, English, Chilean, and other lines maintain regular service at highly remunerative rates; and by the southern route through the Straits of Magellan come and go vessels of all maritime nations. Coastwise shipping gives employment to many Chileans. In the aggregate, the shipping of Chilean ports exceeds — and relatively to populations very greatly exceeds — that of other Latin American countries.

There are, moreover, 20,000 miles of public road, 528 miles of navigable rivers, and 660 miles of navigable lakes. The length of telephone line in operation is 44,000 miles, with 55,000 miles of wire. There are 17,497 subscribers. A chain of wireless telegraph stations is nearing completion. These are located at Arica, Antofagasta, Coquimbo, Valparaiso, Talcahuano, Valdivia, Puerto Montt, Punta Arenas, and one on the Juan Fernandez Islands.

The telegraph service is chiefly performed by the State, which owns about 18,000 miles, with 367 offices out of the total of 22,500 miles. The extensive wireless system has stations at Arica in the north, Punta Arenas in the south, at five or more intermediate points, and at Masatierra, Juan Fernández Islands. In the interest of public education, the Government has made a practice of circulating newspapers, reviews, and other periodical publications free of postal charges. The number of post-offices is given as 1,114, handling over 65,000,000 pieces of mail matter annually.

## ARMY AND NAVY

All males born in Chile, whether of native or foreign parentage, are, under the law of 1910, subject to compulsory service; and the nominal strength of the permanent army is 23,216, of which number 17,132 are in the land forces. A system of military instruction and drill is enforced which practically renders a much larger number available in an emergency; the National Guard comprising all other men between the ages of 20 and 45. Plans for the army include three regiments of field artillery, two of mountain artillery, one section of machine guns, four companies of sappers and miners, six regiments of cavalry, 16 of infantry, and one battalion of railway troops, beside the administrative units. The war strength of the first line is estimated at 150,000 men. The artillery units are armed with Krupp guns (7 and 7.2 centimetre); the infantry with 7 millimetre Mausers. The police (about 500 officers, 1,000 non-commissioned officers, and 6,000 men, organized on a military basis) are in charge of Santiago, the provincial and departmental capitals, etc. Establishments for military instruction are: The Military Academy and school, cavalry school, artillery school, school for non-commissioned officers, and staff college, where higher studies can be pursued.

The Chilean navy includes nearly 50 vessels of various classes: the armor-clads *Capitan Prat, O'Higgins*, and *Esmeralda;* three protected or armored cruisers; three torpedo gunboats, 13 destroyers, five modern torpedo boats, two submarines, one mine ship, one hospital ship, etc. There is a naval academy at Talcahuano, and it is a pleasure to commend the truly admirable government naval school at Valparaiso.

## POPULATION

In 1907, the date of the last census, the population numbered 3,249,279, and in 1917 it is estimated as nearly 4,000,000. The great majority of the population is of European origin. The indigenous inhabitants are of three branches, the Fuegians, mostly nomads, living in the extreme south, the Araucanians (101,000), the ancient rulers of the country, who so long bravely resisted the

white invaders, live in the valleys or on the western slopes of the Andes; the Changos, who inhabit the northern coast regions and perform most of the manual labor there. Immigration is small, but is encouraged by the Government. The total number of immigrants between 1905 and 1914 was 25,544. Colonies (agricultural settlements) are encouraged and their number and importance are increasing.

## EDUCATION

In many parts of Chile education scarcely touches the common people; but, so far as the upper and middle classes are concerned, the educational system is fairly well developed. Elementary education is free, but not compulsory; and although there are schools of some kind in all towns, 75 or 80 per cent of the population as a whole must be called illiterate. The University of Chile in its various departments (including law, engineering, medicine, philosophy, and the fine arts) has an attendance of 1,300. Other public educational institutions are: The National Institute, with 1,200 pupils; Institute of Pedagogy; about 30 lyceums of secondary instruction for men; and 15 lyceums for girls; 6 normal schools; a Conservatory of Music; a Commercial Institute; also schools of fine arts, agriculture, arts and trades, for the blind and for deaf-mutes, professional schools for girls, and industrial schools. Private educational establishments are numerous and receive pupils from other Latin American countries. The Roman Catholic University has courses of engineering and law. There are several museums of natural history and fine arts; an Astronomical Observatory, and meteorological observatories; botanical gardens, and, in various parts of the country, 41 public libraries, with 240,000 volumes. At Copiapó, La Serena, and Santiago there are mining schools; and agricultural schools at Chillán, Concepción, Ancud, and other cities. Exceedingly interesting are the statistics relating to instruction in Magallanes Territory, for it is shown that 77.77 per cent of all inhabitants of that Territory, above the age of six years, can read and write; 1.89 per cent can read but cannot write; and only 20.33 per cent are entirely unlettered. But the percentage of illiteracy in Chile as a whole is, as we have just said, nearly four times greater. Comparing the Chilean population of Magallanes Territory with the foreign element, the former shows 25.51 per cent of illiteracy as against 13.23 per cent for the latter. A still more favorable result is

obtained if we scrutinize the reports of primary and secondary schools in that Territory. It appears that more than 83 per cent of all children of school age there can read and write, while less than 17 per cent must be classed provisionally among illiterates. The *Report of the Commissioner of Education for the Year Ended June 30, 1915,* (Washington 1915) contains the statement: "The budget passed by the Chilean Congress [for the year 1915–16] carries $122,450 (U. S. currency) for public instruction. This is less than one per cent of the entire budget and represents a mere fraction of the public expenditure for education, which is supplied mainly by the provincial governments." According to the latest annual of the Chilean bureau of statistics there were 3,131 public and 506 private primary schools in Chile at the close of the year 1913, with 318,000 and 61,000 pupils respectively; 16 public and 2 private normal schools with 2,650 and 225 pupils respectively; 86 public and 120 private secondary schools with 25,500 and 17,400 pupils respectively; 11 public and 10 private commercial schools, 3,660 and 1,690 pupils respectively; special schools of the army numbered six, and there were seven special schools of the navy. The cost of maintaining the public primary schools in 1915 was $2,945,310.

It is proper to note under this heading that the Spanish language, as written and spoken in Chile, differs from the standard Castilian in many respects. For example, the initial *g* in such words as *general* is changed to *j*. Compare, in the *Bibliography*, the titles *Historia Jeneral*, *Censo Jeneral*. See also Latin America — *Languages*.

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## POLITICAL DIVISIONS AND CITIES

The Republic of Chile is divided into 23 provinces and the Territory of Magallanes. In alphabetical order, with their areas and populations, capitals and populations, they are as follows:

| PROVINCES | Area | Population | Capital | Population |
|---|---|---|---|---|
| Aconcagua | 5,406 | 138,446 | San Felipe | 10,426 |
| Antofagasta | 46,408 | 126,101 | Antofagasta | 36,114 |
| Arauco | 2,189 | 63,209 | Lebu | 3,500 |
| Atacamá | 30,711 | 66,641 | Copiapó | 11,617 |
| Biobío | 5,453 | 103,873 | Los Angeles | 11,691 |
| Cautín | 6,381 | 172,096 | Temuco | 16,000 |
| Chiloé | 6,979 | 95,756 | Ancud | 3,979 |
| Colchagua | 3,851 | 159,930 | San Fernando | 9,150 |
| Concepción | 3,313 | 235,959 | Concepción | 69,776 |
| Coquimbo | 14,098 | 183,787 | La Serena | 24,000 |
| Curicó | 3,045 | 109,466 | Curicó | 19,529 |
| Linares | 3,969 | 114,980 | Linares | 11,122 |
| Llanquihué | 34,778 | 124,947 | Puerto Montt | 6,000 |
| Malleco | 3,303 | 117,375 | Angol | 7,886 |
| Maule | 2,812 | 122,754 | Cauquenes | 9,684 |
| Ñuble | 3,498 | 174,663 | Chillan | 39,173 |
| O'Higgins | 2,168 | 96,808 | Rancagua | 10,380 |
| Santiago | 5,893 | 587,721 | Santiago | 378,103 |
| Tacna | 12,500 | 45,593 | Tacna | 15,000 |
| Talca | 3,864 | 133,742 | Talca | 39,526 |
| Tarapacá | 16,689 | 123,843 | Iquique | 45,012 |
| Valdivia | 8,991 | 151,537 | Valdivia | 19,388 |
| Valparaiso | 1,775 | 324,660 | Valparaiso | 187,240 |
| Magallanes Territory | 65,355 | 22,744 | Punta Arenas | 11,000 |
| Total (1914) | 289,829 | 3,596,541 | ... | ... |

### Santiago

The capital of the Republic as well as its principal city, lies 1,821 feet above sea level, approximately 72 miles from San Antonio, the nearest seaport, and 117 miles east southeast of Valparaiso. The city embraces an area of almost 16 square miles, and is built in a fertile valley, bounded on the one hand by the Coast Range, and on the other by the Andean Range. Its climate is perhaps unequalled in any part of the world; the average temperature of the year being about 60° F. In building the city, the block system has been followed. The streets are exceptionally well paved, clean and broad, and are lined with very many large buildings of solid stone construction, as well as many handsome residences. Its public services, such as drainage, paving, electric lighting and gas, water, telephones, electric trams,

taximeters, etc., are on a par with those of the most up-to-date cities. With the exception of Los Angeles and San Francisco, it is the most populous city on the entire western slope of America. Santiago is connected by rail with Valparaiso, Concepción, and Buenos Aires. It is also prominent in the industrial field, containing several tanneries, flour mills, iron foundries, and factories making furniture, soap, linseed oil, etc. It is the social centre of the Republic, contains several educational institutions, and is the official residence of the Ambassador of the United States accredited to Chile.

## Valparaiso

The second city in size and the chief seaport of the Republic, lies on a bay of the Pacific, 117 miles by rail west northwest of Santiago. The city is built on 19 hills, varying from 300 to 1,100 feet in height. The level ground along the shore covers only a narrow strip, but the largest buildings and business houses are located here. There are good banks, hotels, public offices and the naval academy. The climate is mild and equable. The harbor is open on one side and is subject to violent gales from the north. When these occur vessels are obliged to put to sea. An elaborate plan of port improvements, to cost $12,000,000 is being carried out, and when completed will provide good dockage for all vessels with modern machinery. There are four new oil tanks in the harbor at Viña del Mar, two of a capacity of 8,000 tons each, and two of 235 tons each. A branch of the National City Bank of New York was established here in 1916. Valparaiso is the most important commercial city of Chile. Grain, wool, leather, saltpetre, guano, and copper are its chief exports. It imports textiles, mineral products and various manufactures. Nearly one-half the imports of the country pass through Valparaiso, while it ranks seventh as a port of export. Cotton goods, machinery, ironwork, tobacco, sugar, beer and liquors are the principal manufactures. There are also flour mills, tanneries, furniture, soap and whale-oil factories. It is the seat of a United States consul. It has two railroads, one of which connects it with Buenos Aires.

## Iquique

The principal nitrate port of Chile and the capital of the Department of Tarapacá, is situated on the north coast, 150 miles south of Arica, and nearly 300 miles north of Antofagasta. It is surrounded by a bare desert and derives its water supply by an aqueduct from Pica, 88 miles distant. It is well built, has several miles of street railroads, soap factories, a water-distilling plant, shoe factories, railway shops, etc. Inland are the famous saltpetre mines for which the city is the outlet, and with which it is connected by rail. To the north are the silver mines of Huantajaya. Besides saltpetre, borax, iodine, and copper ores are exported. Machinery and fuel for the mines are the principal articles of import. Although a large volume of export trade passes through Iquique annually, there is no harbor there and vessels have to anchor half a mile to a mile out. Improvements have been projected, but no actual construction work has been done. The exports average about $65,000,000 annually and the imports $28,000,000. It is the seat of a United States consul. Iquique is most easily reached from New York by any one of the innumerable lines to Colon, where direct connection can be made to the express steamers plying between Panama and Valparaiso calling at intermediate ports, including Iquique.

## Antofagasta

This port is situated on Chimba Bay, 300 miles south of Iquique and about 700 miles north of Valparaiso. It gets its importance from being the terminus of the Antofagasta Railway and the port through which a large part of the commerce of Bolivia passes. It has a good street-car system, a large silver-smelting plant, and several nitrate works. There are saltpetre deposits in the neighborhood, and it is connected by rail with the rich silver mines of Caracoles and Huanchaca. Hardware, machinery, cotton fabrics, drugs and medicines are its principal imports. Its exports reach an average of $55,000,000 yearly and its imports about $40,000,000.

## Concepción

This city is the capital of the province of the same name. It is located on the river Bio-Bio, 6 miles from its mouth in the Pacific, and 352 miles from Santiago, with which it has railway connection. Its streets are clean and well paved. It is the centre of a fertile region, its population is engaged in various productive industries, and the city is a thriving example of Chilean civic life. The location near the coal mines of the country adds to its importance.

## Punta Arenas

This the southernmost city of Chile, and in fact of the world is situated on the Strait of Magellan. It is modern in construction, and has become prominent both on account of its position on the crossroads of international traffic and also through the richness of the region round about. Considerable business is done in furnishing ships with stores and provisions. There are coal, copper, and gold mines and timber in the neighborhood. Stock raising is the principal occupation. Wool, skins, beef, and other cattle products are exported yearly to the value of approximately $15,000,000. It is the seat of a consul of the United States.

## Other Cities

Nine miles from Concepción lies the city of Talcahuano, on the bay of the same name. It has one of the best harbors on the coast of Chile, and for that reason was selected as the site of the military port and government dry docks. Talca lies 155 miles south of Santiago, and is an inland city. It is surrounded by a fertile district and has a thriving local trade. La Serena, capital of the Province of Coquimbo, is situated on an eminence overlooking a small bay, 215 miles north of Valparaiso, with which it is connected by rail. It is well built, with clean, straight and regular streets. A railway 8 miles long connects it with its port, Coquimbo. Other roads run to the interior towns of Vicuña and Rivadavia. Coquimbo has a good harbor and exports chiefly copper ores and cattle. It is the residence of a United States consular agent. Chillán, the capital of Ñuble, is situated 56 miles northeast of Concepción. It is regularly built and is a handsome city. There are sulphur baths in the vicinity. Arica, in the Province of Tacna, has a safe roadstead, and is 2,100 miles from Panama. It is connected by rail with the interior and with La Paz, Bolivia, and much of Bolivia's exports pass through it. Gold, copper, silver, tin, wool, alpaca, saltpetre, and guano are exported. Valdivia is a thriving port, 200 miles south of Concepción. Tocopilla exports copper ore and nitrate. Mejillones, Taltal, and Caldera are also important ports.

# COLOMBIA

By Marrion Wilcox

## SITUATION AND PHYSICAL FEATURES

THE Republic of Colombia is bounded on the north and northwest by the Caribbean Sea and the Republic of Panama; on the east by Venezuela and Brazil; on the south by Brazil, Peru and Ecuador; on the west by the Pacific Ocean. Its area cannot be stated precisely. The estimate in the latest census is 461,606 square miles; in the pamphlet entitled *Latin America* (Washington 1915), 438,436. The boundary lines between it and four of the neighboring countries are in dispute.

The Andes of Colombia are divided into three ranges — the Cordillera Oriental, Cordillera Central, and Cordillera Occidental — with intervening uplands of great extent, which are habitable and fertile, but as yet rather inaccessible. Of the three ranges mentioned, the western Cordillera is the least impressive; the central Cordillera has the greatest number of snow-clad summits. There are four river systems in the republic: (1) The western system, comprising the streams which flow from the western Cordillera into the Pacific Ocean; (2) the river Cauca and its affluents; (3) the Magdalena River with its affluents; (4) the streams of the eastern slope of the eastern Cordillera. Of special interest is the Atrato River, which is not included in any of the foregoing systems. This navigable stream flows to the Gulf of Darien near the disputed Panama-Colombia boundary. As Mr. Eder (see *Bibliography*) has written, when discussing the topography of this country, Colombia presents three main divisions for study, namely, the coast regions, the low-lying eastern territory, and, between the two, the great Andean land, with its valleys,

plateaux and mountains. The eastern region is subdivided into a northern part, where the *llanos* or open wild pastures are found, and "a southern part, of impenetrable forests, the *selvas* sparsely populated, except by savages, and much of it still but imperfectly explored." Beside the three main Cordilleras, we note: The great mountain block called the Sierra Nevada of Santa Marta in the northern part of the country near the Caribbean Sea; far to the south a line of worn-down ancient mountains separating the Amazon basin from the Orinoco system; and the Baudo range which runs along by the Pacific coast from the mouth of the San Juan River to the Isthmus of Panama, and belongs to the Antillean system (see CENTRAL AMERICA), while the true Western Cordillera of the Andes, running northward a little farther from the Pacific coast, is separated from the Baudo mountains by the valleys through one of which the San Juan River flows into the Pacific while in the other the Atrato takes its course toward the Atlantic, as we have said. On the Pacific slopes of the Western Cordillera the rainfall is excessive and the vegetation is luxuriant, while the eastern slopes are comparatively arid. Near the border of Ecuador are the twin snow peaks, Chiles (15,680 feet according to Mr. Eder; 16,912 according to Mr. Lévine) and Cumbal (15,710 or 17,076 feet — the estimates varying in this case also). With these exceptions the height of the Western Cordillera is in general not above 12,000 feet; and on the other hand it is as a rule not below 6,000. There are, however, a few low passes, the most remarkable of which is the valley of the Patia, a precipitous gorge 1,676 feet deep. Here the Patia River has forced its way through the Andes and empties into the Pacific. Near the southern end of the continent there are other examples of rivers cutting the Cordillera from east to west, rather than from west to east; nevertheless the gorge of the Patia is decidedly noteworthy, and it will be referred to later. The Central Cordillera's high plateaux, in the regions of Pasto and Popayán, are well adapted to agriculture, and towns of some importance are located there, at no great distance from groups of volcanoes, some of which are "perpetually emitting smoky clouds from their snowy caps." Dominating Cauca Valley, north of Popayán, is one of the highest mountains in Colombia, Huila (17,700 feet). Thence northward the Central Cordillera has a nearly constant altitude of about 12,000 feet. "There are several passes," Mr. Eder writes, "but through none have roads been built north of the pass near Popayán till we reach the neighborhood of Quindiu. In recent years this road has been somewhat shortened by one or two trochas or private trails," but

for the bulk of travel and traffic between the Cauca and Magdalena valleys, there is still available only the old Spanish highway. Near the Quindiu are the snow-crowned Tolima (18,400 feet), Ruiz and Herveo (18,300 feet), and Santa Isabel (16,700 feet). North of these high mountains the Central Cordillera widens out, and here we find the important mineral region of Antioquia. The Eastern Cordillera (of Cretaceous and Tertiary formation), which broadens out into the great table-land or savannah of Bogotá, also has high peaks, such as those of the Sierra Nevada de Chita and Cocui (16,800 feet). "From whatever point of view we examine Colombia — be it scientific, historical, political, or economical, whether we are investigating the habits and customs of its people or its trade routes, markets, and industries — we find the mountains an ever-present, a predominant factor. Separating one part of the country from another, providing hitherto insuperable obstacles to the building of highways and railways, they have helped to breed or to maintain local jealousies, fostered internal strife, hindered patriotic efforts for betterment, and in innumerable ways have proved an obstacle for which their mineral wealth and scenic grandeur have given scanty compensation. The immense tropical forests have been scarcely less an impediment." Such is Mr. Eder's comment. The effects of the extreme rugosity of the second in size of the West Indian Islands should be studied in this connection. See the article on the island of Santo Domingo.

## Climate

The coast and some interior valleys are intensely hot and insalubrious. On the elevated plateaux the temperature is that of perpetual spring. The lowest average temperature in any inhabited part of the mountainous country is 20° F. The peaks of the Cordilleras are covered with snow always. In spite of the equatorial situation of Colombia, the Andes make temperature merely a question of altitude. At Bogotá the thermometer ranges from 55° to 70° F. Alternating periods of dry weather and rainy weather, each generally of three months duration, are Colombia's "summer" and "winter."

## Flora and Fauna

Vast tracts of forest remain to be explored. It is assumed that rare botanical treasures will be found in their recesses; and with good reason, since the known varieties of Colombian flora are of exceptional interest. Building, cabinet and dye-woods are

plentiful; the rubber-tree, the cinchona, wax-palms, cedar, balsam of tolu, lignum vitæ, copaiba, and mahogany flourish especially. The aloe, the sarsaparilla, and other medicinal plants grow in abundance. Wild animals of the intertropical or higher regions are: the puma, bear (two species), jaguar, alligator, sloth, armadillo, tapir, deer, cavy, opossum, and 17 distinct species of monkeys. Serpents (the boa constrictor, yaruma, etc.), are not found at a greater height than about 5,000 feet above the sea, though they are very numerous in the lowlands. Characteristic birds are: parrots (many varieties), paroquets, cockatoos, lorries, cranes, storks, the condor, etc.

## Mineral Resources

Gold has been and continues to be the most important mineral product of Colombia. The metal is found both in lodes in the mountains and as grains and dust in the alluvial deposits of the river valleys. The principal gold area is between the Magdalena and the Pacific coast, and south of the point where the Cauca joins the Magdalena. The Province of Antioquia is the most important area of production, which centres around Medellin. In 1912 the exports of gold were $6,634,914. The rapid growth of platinum production since 1907, when only 245 troy ounces of the metal were exported, can be realized from the fact that in 1915 the shipments amounted to 11,046 troy ounces and were valued at $494,888. This entire amount came from the Choco and was panned out of the gravels of the small streams. The area of the platinum producing zone is small, beginning near the mouth of the Condoto River and extending a short way north of the rivers Nemotá, Bebaramá, and Neguá, a longitudinal distance of about 90 miles. The strip is not much more than 30 miles wide. An American company was formed during the latter part of 1915 to exploit platinum-bearing lands and to dredge a section of the San Juan River. This company has ordered its equipment from the United States and has already begun operations. Silver is mined to a certain extent, the normal output fluctuating but running between $400,000 and $700,000 annually. Copper is pretty generally distributed, being found especially all along the mountains adjoining the Magdalena Valley, from the Ecuadorian boundary to the mountains of Santo Marta on the coast. Iron ore in large quantities occurs in various parts of the country but is especially important in Cundinamarca. Extensive coal deposits have been discovered and seem to be scattered over all parts of the country. The

principal beds now worked are near Amaga in Antioquia. Coal mines do not come under the provisions of the Mining Code in regard to filing of claims. The government controls the coal in its unoccupied lands, and it may be worked only by contract with the Government, but owners of lands containing coal may work their mines independently. Oil has been found in various parts of the country especially around Cartagena and Barranquilla. Sulphur, salt, emeralds, lime, nitre, chalk, marble, asphaltum, alum, magnesia, amethysts, lead, tin, manganese, mercury, and cinnabar are found in various parts of the country.

## HISTORY OF COLOMBIA

In 1508 the Spanish crown granted to Ojeda the district between Cape Vela and the Gulf of Darien, and to Nicuesa the country from the Gulf of Darien to Cape Gracias á Dios. The two territiories were united in 1514. Balboa's discovery of the "Southern Sea" was followed by the removal of colonists to the Pacific coast and the founding of the city of Panamá. Starting from Santa Marta 6 Aug. 1536, Gonzalo Jiménez de Quesada led 700 infantry and 80 horsemen into the mountains of New Granada (now Colombia), and took the Indian capital. Colonies were established in the table-lands and along the coasts. The city of Medina was founded in 1670 by Fray Alonzo Ronquillo of the order of Preaching Friars. In 1719 the natives destroyed the Spanish colonies on the Pacific slope. New Granada became a viceroyalty in 1740, having been administered previously as a simple presidency, except in 1718–19. In 1810 an insurrection against the government of Spain began. In 1819 New Granada and Venezuela were united, Ecuador joining the union two years later. The country thus formed was called the Republic of Colombia. The efforts of Spain to retain these colonies ceased in 1824. Six years later the Colombian union was dissolved, Venezuela and Ecuador having withdrawn; and the republic of New Granada was established in 1831, its territory corresponding to that of the present Republic of Colombia.

New Granada was at first divided into five departments, namely: Boyacá, Cauca, Cundinamarca, the Isthmus, and Magdalena. Lack of coherence caused a civil war in 1840; Panamá and Veragua unsuccessfully sought independence in 1841. From 1849 to 1857 the Liberal party controlled the government. In 1853 the right was granted to the departments to elect their governors by

popular vote, and the powers of the provincial legislative bodies were increased. New political divisions were organized soon afterward — Panamá, etc. These claimed, and taught the older departments to claim, the privileges of semi-independent states. A civil war, beginning in 1859, resulted in a triumph for the liberal (States' Rights) party. Under the constitution of 1863 the name Colombia was reverted to, the official title being United States of Colombia. Nine sovereign states were formed, each authorized to maintain its own military forces without restriction, and to nullify the federal laws. Insurrections prevented steady progress until



National Capitol at Bogota, Colombia
(Courtesy of the Pan American Union)

a reasonable degree of federal control was asserted. In 1880, Rafael Nuñez became president. His influence secured to the national government the right to use its forces for the suppression of insurrections in the several states. A national (government) bank was incorporated; diplomatic relations were established with Spain; the question of the boundary between Colombia and Venezuela was submitted to arbitration. Nuñez held the same office, which he made important, again in 1884 and 1886. In 1891 he was elected for the fourth time, but allowed Vice-President Caro to assume his duties.

A new constitution was adopted in 1886. By this the states were reduced to departments, with governors appointed by the president of the republic, and legislative assemblies elected by the

people. The president's term of office was extended from two to six years. Colombia passed from extreme of a loose federation to that of a centralized republic. Subsequent revolutions have shown the desire of the Liberals to return to the old irresponsibility. In 1892 subsidies were granted for the construction of several important railways, and new cable lines along the coast and telegraph lines in the interior were authorized. Two years later a law was passed providing for the free coinage of gold and the redemption of the paper currency. Very little progress was made, however; on the contrary the means of communication and transportation, as well as the medium of exchange, displayed a tendency to go from bad to worse. The rebellion of 1895 was suppressed in 45 days, but a civil war which broke out 17 Oct. 1899, proved to be more ruinous than any preceding conflict. The Liberals attempted by force of arms to drive the Conservatives from power. An issue which, in a republic, should be settled at the polls, cost the lives of 50,000 soldiers, while among the wretched non-combatants the number of deaths from privation and disease was vastly greater. As usual, the department of Panamá was a centre of disturbance. American marines were landed to guard the stations and railway at Colón and Panamá, in accordance with the treaty of 1846 between the United States and New Granada, by the terms of which the United States guaranteed the neutrality of the isthmus and assumed the obligation to protect free transit between the ports mentioned.

Toward the end of 1902 the flame of civil war finally went out. The government was almost destitute of money; it could neither pay interest on the national debt nor meet current expenses. Congressional elections were held throughout the country. The most important matter to come before that Congress was the question of ratifying a convention concluded at Washington 22 Jan. 1903, between the secretary of state of the United States of America and the chargé d'affaires of Colombia, for the construction of a ship canal to connect the Atlantic and Pacific oceans. The French Panama Company, formed in 1881, had suspended operations in 1889, and in 1894 a new company had been organized, securing a concession for 10 years, which term was subsequently extended by six years. The board of this company had offered (4 Jan. 1902) to sell all its property and rights to the United States for $40,000,000. The Panamá route had been approved by the Isthmian Canal Commission of the United States. After a long discussion in the Senate of the United States, the

convention was submitted to the Colombian Congress, the Constitution of 1886 providing that ratification by both Houses is requisite for the validity of such an agreement as that relating to the Panama Canal.

The convention just referred to, commonly known as the Hay-Herrán treaty, was defeated at Bogotá, 24 members of the Senate voting on 12 Aug. 1903 to reject it. A counter-proposition prepared by a commission (29 August) was debated for a while, but not adopted. The adjournment of the Colombian Congress on 31 October was followed almost immediately by the outbreak of a carefully planned "Separatist" movement in Panama. Independence



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Street Scene, Barranquilla, Colombia

was proclaimed 3 November, and the Colombian army and navy officers in the principal city of that department were imprisoned. A provisional government was organized. American warships were ordered to the Isthmus; marines landed at Colón; and the Colombian troops withdrew from that town. On 6 November the government of the United States entered into relations with the government of the Republic of Panamá, and on 13 November M. Phillippe Bonau-Varilla was formally received by President Roosevelt as minister of the new country. At that time hostile demonstrations against the Colombian government occurred at Bogotá, and another revolution seemed imminent.

## Arbitration

While political factions have continued to resort to arms for the settlement of differences of opinion within the nation's boundaries, the better sentiment of an increasing class of educated people has begun to make itself felt in the disputes with neighboring republics touching the location of those boundaries. Arbitration has repeatedly been chosen in place of foreign wars. An agreement was made 15 Dec. 1894 for submitting to arbitration the question as to the southern line between Colombia and Ecuador and Peru. President Loubet of France acted as arbitrator of the boundary dispute with Costa Rica, rendering a decision 11 Sept. 1900.

## Events During the Last Decade

In recognition of difficult questions that had arisen, and in anticipation of those that might arise out of Panama's secession from Colombia and the creation of the Panama Canal Zone, Secretary Taft effected on 17 Aug. 1907 an agreement between representatives of Colombia, Panama, and the United States. This agreement was general in its scope, and particular applications of its main principle were observed, both at the end of the year 1908, when negotiations between Colombia and Panama reached an advanced stage, and at the beginning of 1909, when a treaty between the United States, Panama, and Colombia was signed. Hostility was manifested in Colombia to that portion of the treaty which exonerated the United States and Panama from the charge of injustice to Colombia in the matter and manner of Panama's secession. Thereupon President Reyes tendered his resignation, and his successor, President Valencia, advocated the reference to The Hague of that question and also of the question as to indemnity for the alienation of Colombia's most famous and valuable department. The following year (1910) saw riotous demonstration of the anti-American feeling in Bogotá, for which an apology was offered to the Minister of the United States. On 20 July the centennial anniversary of Colombia's independence was celebrated. In 1911 territory claimed by Colombia as a portion of her southern domain was occupied by Peruvian troops. A battle was fought there, and the Colombians were defeated. In 1913 the proposed development of the petroleum industry in Colombia by a British syndicate (practically, Messrs. S. Pearson & Son, Ltd.) aroused opposition in the United States. The liberality of the terms was construed as the grant of a monopoly, and the proposals were

withdrawn. For an explanatory reference to Colombian oil-fields, see section Banking and Finance. On 4 Nov. 1913 the Congress at Bogotá adopted a resolution affirming the performance of Colombia's isthmian rights, 10 years having passed since the severe loss had been sustained. Don José Vicente Concha (clerical-conservative) became president in 1914. During that year there was, we read, "no little satisfaction at the prospect of receiving, under a pending treaty, $25,000,000 and of acquiring special privileges in respect to the Panamá Canal. Taking advantage of the presumably more favorable spirit which the treaty had created in Colombia, an American 'scientific mission' was sent to spend eight years and $400,000 exploring the country." But in 1915, when the proposed treaty was under consideration by the Senate of the United States, its provision for the payment just named, coupled with apology for the methods employed in securing the Canal Zone privileges and obligations, made favorable action by that body entirely impossible. In Colombia's national budget for 1915–1916 the estimated expenditures were more than 25 per cent in excess of the estimated receipts.

## GOVERNMENT

Some of the amendments to the Constitution adopted by Legislative Act Number 3 of 1910 were: Title III, Art. 3. The Legislature shall in no case prescribe the penalty of capital punishment. Art. 7. New emissions of paper money of compulsory circulation are absolutely prohibited. Title VI, Art. 9. The Congress shall annually elect two Designates, a first and a second, who shall exercise the Executive power in that order in case of a vacancy in the Presidency. Title VIII. The Senate shall be composed of as many members as correspond to the population of the Republic in the ratio of one for each 120,000 inhabitants. Two substitutes shall be elected for each senator. Title IX. The Chamber of Representatives shall be composed of as many persons as correspond to the population of the Republic in the ratio of one for each 50,000 inhabitants. Title XI, Art. 25. The President of the Republic shall be elected by the direct vote of the citizens having the right to vote for Representatives, and for a term of four years, in the manner prescribed by law. Art. 33 (amending Art. 121). In case of foreign war or civil disturbance the President, with the signature of all the Ministers, may declare public order disturbed and the Republic or any part

thereof to be in a state of siege. By such a declaration the government, in addition to the powers conferred by the laws, shall have such powers as govern war between nations pursuant to the accepted rules of international law.

The foregoing will suffice to give an idea of the character of the large number of amendments dating from 1910 — and a rather important one even from 1915 — which necessitate a new examination of Colombia's fundamental law; and the first observation is that the old doctrine of the sovereignty or sovereign rights of departments has been rejected in favor of the centralized system. The brief sketch which follows shows the leading provisions of the Constitution adopted in 1886 and transformed by amendments in most recent years.

The Executive overshadows the Legislature and Judiciary. (Contrast: Chile — Government.) Appointed by the President and freely removable by him are the Ministers of State and Government, Foreign Relations, Hacienda or Exchequer (in charge of Government revenues), Treasury (in charge of disbursements), War, Public Works, and Education. These Ministers are also responsible to the Legislature. Naturally, then, frequent shifts and changes in the ministry are the rule "and rarely," says Mr. Eder, "is a Minister in office long enough to build up his department or carry out his own policies." The Governors of departments (the main political divisions of the Republic) are appointed by the President and retain office by retention of his favor. The Governors, in their turn, designate and control both the prefects of the provinces (the main subdivisions of departments) and the alcaldes of the municipalities; and thus, mediately or immediately, officials throughout the country are dominated by the Central Executive at Bogotá. The only provision made for home rule is found in the limited powers of the departmental assemblies and municipal boards, both elected by popular vote. The revenues of the departments are inadequate to support efficient local administration. Departments and municipalities (with the exception of a few large cities that have special sources of revenue) levy what little they can by indirect taxes, often of an unwise and hampering character. This economic helplessness of the departments of course increases and emphasizes their dependence upon the National Government, which has at least its revenue from customs duties, mines, stamped paper, etc. The conclusion is, that all power is centralized at Bogotá.

Sessions of the Senate and House of Representatives, forming the Congress, are held annually; but, as Mr. Eder writes,

"Presidents have exercised the right, instead of having elections for Congress, of convoking a National Assembly, the membership of which has been appointed by the departmental assemblies, upon which pressure can be somewhat more readily exerted by the Executive than upon a direct vote at honestly conducted polls. The distinction between a Congress and a National Assembly is somewhat hard for the foreigner to grasp, especially as the Constitution makes no provision for the latter body, but it is held that the right of the sovereign people to assemble is inherent and superior even to the Constitution itself." It was stated in the preamble of the Executive Decree convoking such an assembly in 1905 that the basis for an act of such transcendent importance must be sought, not in the Constitution but in the supreme law of necessity. Such an Assembly can, indeed, amend the Constitution without the more deliberate proceedings which that instrument prescribes. Title XX, Art. 70 of Legislative Act Number 3 of 1910 prescribes that the Constitution may be amended only by a Legislative Act first discussed and approved by the Congress in the usual manner, and in like manner considered at the next succeeding annual session and thereat approved by both chambers, after second and third hearings, by an absolute majority of the whole membership of each of the chambers.

### The Judiciary and the Codes, etc.

The Supreme Court has nine members, four elected by the Senate and five by the House of Representatives. In each case the term is five years, and nominations are made by the President of the Republic. The Supreme Court magistrates appoint, as judges of the Superior Courts, the nominees of the departmental assemblies. Municipal judges, however, are elected by the local boards. The Commercial and Maritime-Commercial codes are chiefly based on Spanish law, though the influence of French law is not to be overlooked. The same influence strongly affects the Penal Code, and the Civil Code is founded on the Code Napoléon. The title "doctor" is commonly bestowed upon lawyers of prominence or university training.

## EDUCATION

The most recent phase of educational development or endeavor has, naturally, very practical and material aims. Compare BRAZIL — *Education*. We note particularly the establishment

of a National Institute of Agriculture and Veterinary Science at Bogotá, with an experiment farm attached and an auxiliary school of agriculture to be located elsewhere, as authorized in December 1914. But the purely literary tradition of this interesting country is its highest distinction — its achievement in literature has been admirable. The political capital has been a literary capital as well, and the list of Colombia's struggling yet well-planned colleges and schools properly begins there. Governmental control of education throughout the country is centralized in the Ministry of Education which is represented by a director-general in each department. No complete census of schools and pupils has been taken, but the fact has been ascertained that the enrollment in schools, in the country as a whole, is only 5.3 per cent of the population. In general, private schools are more flourishing than public schools. The University of Cartagena, Department of Bolívar, comprises five "schools," devoted to philosophy and letters, science, medicine and the natural sciences, law and political science, and mathematics and civil engineering. A school of mines is maintained by the National Government at Medellín, capital of the Department of Antioquia. According to the report of the Director of Education 266 primary schools, public and private, gave instruction in the department of Cartagena in 1916; about 12,250 students were enrolled, and the average attendance was 8,059. Primary education is free, but not compulsory. The private schools are generally superior in instruction to the primary public educational institutions and are attended by children of the upper classes. There are no secondary schools of public education.

## AGRICULTURE

Agriculture is the principal industry of Colombia and is especially favored by soil and climate. The low and torrid regions (coasts and valleys) produce coffee, sugar cane, bananas, cacao, yucca, cotton, tobacco, indigo, vanilla, rice, and many kinds of tropical fruits. The temperate middle region of the Andes is suited to the cultivation of wheat, barley, corn, etc., but these grains are not produced in very large quantities owing to the lack of means of transportation. The rubber tree and copaiba tree grow wild and are tapped. The cattle raising industry is important in the great plains of the southeast and cattle hides are an important export. The total number of cattle in the republic is about 7,000,000. There are some excellent horses and mules of

Andalusian stock. The government has adopted measures to make experiments in irrigation of tropical lands and will place artesian wells at various points on the plains. A recent law covers this project and provides for the establishment of schools of tropical agriculture and a central bacteriological institute. Coffee is Colombia's most important article of export, and is grown largely in the Medellin and Bogotá districts and the Cauca Valley. Colombian coffee commands a high price and finds a ready market in Europe and the United States. The Cali railway, which is nearing completion, will undoubtedly stimulate the industry in the Cauca Valley. Much of the rubber shipped abroad is of the uncultivated variety, but in the Atrato Valley and elsewhere the tree is under cultivation. The production in 1915 increased 100 per cent over that of the preceding year, and the industry is still in its infancy. The Sinú and Atrato Valleys abound in fibrous plants, such as fique and pita, and on the banks of the Magdalena River plants of the agave family and a species of henequen, called locally "plantanillo," grow in great numbers. These various plants produce an excellent grade of fibre which is used throughout the country for making rope, rugs, hammocks, etc. The manner of separating and cleaning the fiber is crude and primitive, the plants being flagellated until the fibres separate and these are put in the sun to dry. The introduction of machinery for separating the fibre economically should create a thriving industry. Ipecac is an important agricultural export. In 1915 there was a large increase in the tonnage and value of shipments of this commodity. The plant grows wild in the Sinú Valley and a small toll is assessed by the Government on all ipecac gathered on public lands.

There are productive tobacco lands near the coast and in the Department of Santander, but the district of Ambalema produces the best grade and the greatest quantity of tobacco. The larger part of it is used locally for manufacturing cigars and cigarettes, although the exports have been important during some years. There was less tobacco grown than usual in 1915 owing to the expected curtailment of the market abroad. The invoiced price of exported tobacco early in 1915 was six cents a pound, which increased to eight cents a pound in November.

The elimination of Germany from the market in 1915 left the exporters of tagua or ivory nuts in this district with quantities on hand that could not be disposed of elsewhere. It is owing to the neglect in sorting the nuts according to size and grade that has prevented Colombian exporters from selling greater quantities in the United States. The prevailing local price of tagua during the

year was $40 a ton. Land for agricultural and other purposes is cheap and generally well watered, but the scarcity of labor is one of the greatest difficulties in developing the country. There are many varieties of hardwood, only cedar and mahogany are exported.

## MANUFACTURES

According to government statistics Colombia in 1916 had 121 manufacturing plants, in which was invested a total capital of $12,406,000. The list prepared by the Government is not complete, as several well-known factories are not represented, and the total capital should be at least $13,000,000.

There are two plants (sugar and oil) of over $1,000,000 capital. Three textile factories and one electric plant have capitalizations of over $500,000 each, and 10 enterprises (4 textile mills, 2 match factories, 1 flour mill, 1 cement plant, 1 chocolate factory, and 1 tanning extract plant) are capitalized between $200,000 and $500,000 each. Twelve factories have capitalization between $100,000 and $200,000; 15 between $50,000 and $100,000; 50 between $10,000 and $50,000; and 28 less than $10,000.

The principal manufacturing centres are Bogotá, Medellin, Barranquilla, and Cartagena. Bogota has 40 plants with a combined capital of $3,013,000; Medellin has 30 with a capital of $2,380,600; Barranquilla, 18 with $1,370,000 capital; and Cartagena, 12 with a total capital of $2,993,000. In the Cartagena factories are included a sugar mill at Sincerin, some 20 miles distant, which is capitalized at $2,000,000. With the exception of sugar, the exports of which in 1915 amounted to $98,265, practically none of the products of these manufacturing industries is exported. In fact their output, except in a few articles, is not sufficient to meet the domestic demand. For instance, with 7 large and 14 small textile mills in the country the imports of drills, sheetings, and print goods amounted to $3,343,383 in 1915.

The manufacture of Panama hats is an almost entirely decentralized industry, which occupies many individuals and families in the small communities of the interior. The 1915 production of hats was valued at about $1,000,000, exports having amounted to $966,846. The industry suffered greatly in the early part of 1915 through the curtailment of the purchasing power of the buyers and the decreased demand from the principal market, the United States. Declared exports of Panama hats at American consulates amounted to $566,683 as against $1,080,508 for 1914, a decrease of

$513,825, or almost 50 per cent. The wages paid male laborers in Colombian factories are $0.50 to $1 per day, the average being about $0.60. Women receive $0.25 to $0.35 daily. In the coast towns most factories work only eight hours, but in the interior 10 hours is the rule. Shipbuilding is an important industry in Cartagena in normal years, but in 1915 there was a noticeable decrease in the number constructed. The ships built here are for the coastwise trade and consist of small skiffs and schooners, sometimes equipped with motor power engines which are generally imported from the United States.

## COMMERCE

The value of Colombia's imports in the last normal year before the European War, 1913, was given as $28,535,800, exports in the same year reaching the sum of $34,315,800. After Brazil, Colombia exports more coffee than any other country. It is estimated that the annual exports amount to 1,000,000 bags of 60 kilos each (132 pounds), produced by 125,000,000 coffee plants. As these plants are valued at 30 cents apiece, they represent an investment of $37,500,000. The exports of coffee in 1915 were valued at more than half of the total exports, being $16,247,672 out of a total of $31,579,131. The United States consumes the bulk of Colombian coffee, importing 91,830,513 pounds out of Colombia's total exportation of 136,215,413 pounds in 1914, and taking 111,077,449 pounds out of the exports of 149,111,674 pounds in 1915. Other items in the export list are: bananas, tagua, hides, leaf tobacco, rubber, gold, "Panama" hats, and platinum. Imports from the United States in 1913 were valued at $7,629,500, and exports to the United States $18,861,800. In the same year, the imports from Great Britain were valued at $5,837,490, and exports to Great Britain $5,566,000; imports from Germany, $4,012,100 and exports to Germany, $2,216,200; imports from France $4,408,600 and exports to France $797,000. Colombia imported from the United States, Great Britain, Germany, France, Belgium, Italy, and other countries in normal years, before the outbreak of hostilities in Europe, articles of the following classes: Textiles, foodstuffs, metals, cars and carriages, materials for arts, drugs and chemicals, fuel and lighting, agricultural and mining implements, electrical supplies, paper and cardboard, wines and liquors, arms and munitions, etc. In domestic commerce many articles appear which are manufactured in the country on a very small scale, partially supplying home con-

sumption. Exports from the United States to Colombia were valued at $8,980,177 in 1915. Exports to the United States from Colombia in 1916 increased over $9,000,000, according to the declared returns received from the consulate of the United States at Barranquilla. The total exports for 1915 were $18,656,662 and for 1916 they were $27,759,081. Large increases are shown in the shipments of bananas, coffee, gold bullion, and hides. The increase in exports of platinum is especially large. In 1916, coffee to the value of $16,616,686 was exported as compared with $12,632,829; hides and skins valued at $3,632,359, as compared with $2,122,595; gold bullion, $2,009,079 against $903,441 in 1915; bananas, $1,667,213 against $863,483; platinum, $1,456,648 against $504,302 in 1915. Rubber, sugar, tanning extract and ivory nuts figured in the exports to the extent of about $250,000 each.

## BANKING AND FINANCE

The principal banks of the capital city are the Banco de Bogotá, Banco de Colombia, Banco del Comercio, Banco Central, and C. Schloss y Cia.; those of Cartagena are the Banco de Bolívar, Banco de Cartagena, Banco Industrial, and Pombo Hermanos; those of Barranquilla are the Banco Comercial de Barranquilla and Alzamora, Palacio y Cia.; those of Medellin are the Banco Aleman-Antioqueño and Restrepos y Cia. The circulating medium was only paper, having approximately the value of one cent American gold per peso in 1914. (See *Bibliography: Modern Foreign Exchange* and *Latin American Monetary Systems and Exchange Conditions*). It is, in 1917, both gold and paper. The theoretical unit was the peso of 1.5976 grammes of gold .91666 fine, divided into 100 centavos; and a law passed some time ago was designed to fix its value at one-fifth of a pound sterling, which would, indeed, be the actual value of a coin agreeing with the above description. For official payments and judicial liquidations the legally established value of the paper currency at the time was given in relation to the pound sterling and in the proportion of £1 as the equivalent of 500 paper pesos. Mr. Joseph T. Cosby wrote in 1915 as follows: Since then the actual par of exchange is 10,000 per cent, when quotations vary from this par they are considered as at either a discount or a premium, as the case may be. For instance, if the commercial quotation for demand draft on London is expressed as 10,500 per cent, this would represent a premium over par of five per cent, since £1 would cost 525 pesos instead of 500

pesos, the par at 10,000 per cent. American and English gold coin circulate freely. The shipments of Colombia's export products are usually financed through the medium of credits, and these credits were to a large extent cancelled soon after the war in Europe began, exchange rates advancing to 11½ per cent above normal. At that rate, $100.00, currency of the United States, cost 11,150.00 Colombian paper pesos. The method of quoting exchange rates in Colombia is as follows: Madrid, 500 pesetas, 9,550 per cent = 9,550 pesos paper; New York, 100 dollars, 10,250 per cent = 10,250 pesos paper; Paris, 500 francs, 9,950 per cent = 9,950 pesos paper; Berlin, 400 marks, 9,850 per cent = 9,850 pesos paper; London, £20, 10,000 per cent = 10,000 pesos paper. A coinage law was promulgated by the President in the *Diario Oficial* of 19 Dec. 1916. Under this law the Government will coin gold, silver, and nickel pieces, and will recoin old and foreign pieces, standardizing in value the money in use throughout the country. The Government is authorized to coin gold pieces of established weight and fineness in the mints of Bogotá and Medellin, when gold is needed in circulation, and when individuals present gold for coinage, the work to be done at cost price. The Government will complete the mint at Bogotá, and will arrange with the Departmental Government of Antioquia for the purchase or lease of the mint at Medellin to be enlarged and put into shape to coin an adequate amount of money. An appropriation of $50,000 annually for coinage purposes is to be included in the next budget and in succeeding budgets until the amount of $200,000 is reached. The funds of the Conversion Board may be used in exchange for national silver pieces coined before 1911 and foreign silver coins now in circulation in Colombia.

The Colombian Government recently authorized the exchange of gold notes for the old paper money in circulation. The *Diario Oficial* announced that the exchange would be made in Bogotá by the conversion board, through the exchange office, during the period from 1 March to 19 Dec. 1917.

Three comprehensive pamphlets dealing with the financial and economic situation of Colombia, with her public works, etc., were submitted by the Colombian delegates to the First Pan American Financial Conference and are embodied in the report of proceedings (Washington 1915). Attention was invited especially " to the geographical location of the Republic of Colombia and its relation to the Panama Canal and the proximity of the principal Colombian ports to both entrances of the canal. This being visualized, it is at once self-evident that the hostage to the

future given by the United States by the construction of the canal makes it imperative in the interests both of the United States and of Colombia that the two countries should establish relations of the greatest intimacy." The Colombian committee also expressed a belief that it is "in the interest of all the American Republics, whose future commerce will pass through the Panama Canal, and especially essential to the United States, that adequate harbor accommodations and facilities for transshipment and storage should be installed at the Colombian ports of Santa Marta, Cartagena, and Buenaventura. To assure the proper development of these ports it is also felt that the sanitation systems should be perfected." In addition, the attention of the conference was called "to the possibilities of railway constructions which would stimulate the development of the rich natural resources of the country, and thus build up a traffic which would find its way to the markets of the world through the ports mentioned." The suggestion was offered that, if American capital should go to this country, which is larger than Germany and France together, or larger than all the coast states from Maine to Florida, including Ohio and West Virginia, it "could take advantage of the greatest and best classes of business and also obtain the contracts for the construction of the most indispensable public improvements of the country," as the English did in Argentina from 1860 to 1880. Interesting statements made by the Colombian committee are the following: In the order of their importance, the workable mines are, first, those of gold, silver, iron, copper, platinum and emeralds; second, petroleum (found in large fields both near the coast and in the interior); third, coal, which "is to be had in every part of the Republic." Platinum and emeralds are not found elsewhere in paying quantities except in Russia. In eastern Colombia there are immense plains well adapted to the cattle-raising industry, and communication with that region might be secured by means of a railway along the Patia River, which has carved its way through the mountains, as we have said above, and empties into the Pacific Ocean, a two days' journey from the Panama Canal. No convincing evidence is at hand as to the feasibility of this plan. Customs duties yield about 75 per cent of the total yearly revenues of the government, and the export tax on the two or three Colombian products liable to duty is so small that it cannot be taken into account.

The foreign debt for loans as well as for subventions and guaranties of interest on railways is payable in London and amounts to £3,923,720 or $19,618,600, that being only $3.80 per

capita. Law 69 of 1909 gave the control of the currency to a board of three persons, called the Junta de Conversión, the paramount duty of the board being to collect a conversion fund in gold coin with which to guarantee the paper money in circulation; and it appears that about 50 per cent of the gold value of the paper money (in the proportion £1=500 paper pesos, for official payments, etc., as above) has been collected. The banks doing business in Bogotá have a total capital of $4,350,000. The law does not allow banking institutions to issue notes. In 1913 the export item was larger by $5,780,000 than the import item, so that the liabilities assumed in the first six months of 1914 were not based on credit alone, and for that reason it was not found necessary, when the European War broke out, to grant a moratorium either in favor of the banks or of private business men.

## TRANSPORTATION AND COMMUNICATION

About 700 miles of railway are in operation. As the commerce of the interior is carried on the river systems, with railways as their auxiliaries, the lines of the latter are short. Important in this respect are the following rivers: Magdalena (navigable for over 600 miles), Cauca, Nachi, Cesar, Lebrij and Sogamoso. The chief ports are (on the Caribbean side) Barranquilla, Cartagena, Santa Marta, and Riohacha, and, on the Pacific, Buenaventura. The government has now under consideration a survey of the Bay of Malaga or Magdalena on the Pacific Coast, with a view of establishing a new port there with modern facilities. Points of export and entry on the Venezuelan frontier are Cucuta and Arauca. The ports are in communication with European and American countries. There were before the European War seven lines of mail steamers (three British and the others French, Spanish, Italian and German), and trade service between the United States and Colombia was furnished by The United Fruit Company, weekly sailings, American; Hamburg American Line, weekly sailings, German; Panama Railroad Company's steamers, weekly sailings, American; Royal Mail Steam Packet Company, fortnightly sailings, British. The number of post-offices is given as 655, and there are 12,000 miles of government telegraph lines.

## ARMY AND NAVY

Military service is compulsory under the law, but military training is bestowed upon a handful of young men only. The peace footing of the army is 6,000 to 7,000, and the police strength in 1914 was given as 2,328 men. Vessels of the navy are: on the Pacific, two cruisers, two gunboats, two tugs, and a troopship; on the Caribbean Sea, three cruisers; and a gunboat on the Magdalena River. There are no modern or really valuable ships.

## POPULATION

The inhabitants number about 5,100,000, 10 per cent pure whites, five per cent pure blacks, 40 to 45 per cent aborigines, 30 per cent *Cholos* (descendants of Europeans and aborigines), and 10 to 15 per cent mulattoes. The urban population, in the 12 cities of 19,000 or more inhabitants, may be placed at 500,000; or about 600,000 if we include towns of 6,000. The estimate made by Professor Sievers (see *Bibliography*) is, for the inhabitants of such cities and towns, 10 to 12 per cent of the entire population.

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## POLITICAL DIVISIONS AND CITIES

The Republic of Colombia consists of 14 Departments, 2 Intendencies, and 7 Commissaries. These with their areas, populations and capitals are as follows:

| DEPARTMENTS | Area (in square miles) | Population | Capital | Population |
|---|---|---|---|---|
| Antioquia | 22,752 | 739,434 | Medellín | 71,[illegible] |
| Atlantico | 1,008 | 114,887 | Barranquilla | 48,[illegible] |
| Bolivar | 22,329 | 420,789 | Cartagena | 30,[illegible] |
| Boyacá | 16,460 | 586,499 | Tunja | 8,971 |
| Caldas | 7,480 | 341,198 | Manizales | 44,[illegible] |
| Cauca | 20,408 | 211,766 | Popayán | 18,[illegible] |
| Cundinamarca | 8,046 | 713,968 | Bogotá | 121,[illegible] |
| Huila | 8,100 | 158,191 | Neiva | 11,[illegible] |
| Magdalena | 19,080 | 149,847 | Santa Marta | 8,[illegible] |
| Nariño | 9,360 | 292,535 | Pasto | 27,[illegible] |
| Santander Norte | 6,255 | 204,481 | Cúcuta | 26,[illegible] |
| Santander Sur | 17,865 | 400,084 | Bucaramanga | 19,[illegible] |
| Tolima | 10,080 | 282,426 | Ibagué | 24,[illegible] |
| Valle | 3,897 | 217,159 | Cali | 27,[illegible] |
| INTENDENCIES | | | | |
| Chocó | 68,127 | 68,127 | Quibdó | |
| Meta | | 29,309 | Villavicencio | |
| COMMISSARIES | | | | |
| Arauca | | 4,922 | Arauca | |
| Caquetá | | 24,534 | Florencia | |
| Guajira | | 53,013 | Puerto Estrella | |
| Jurado | | 8,207 | Pizarro | |
| Putumayo | | 31,380 | Mocoa | |
| Urabá | | 6,476 | Arandá | |
| Vaupés | | 5,545 | Calamar | |
| Total | 440,846 | 5,064,308 | | |

### Bogotá

The capital of the Republic stands on a plain 8,675 feet above sea level protected on three sides by mountains. It is divided by the Bogotá or Funcha River, which at a distance of 14 miles from the city falls over a precipice of almost 500 feet. The streets of the city cross each other at right angles, and while narrow are well paved and shaded. The climate is moist and moderate, the temperature averaging about 60° F., with two rainy seasons each year. There are several public buildings of note, including a museum, a library, a mint, an observatory, and a university, besides the various Government buildings. As the valleys in the neighborhood are well inhabited by an industrious people, an abundant and remarkably varied food supply is one of the attractive features of the city. It has a number of manufactories, which produce porcelain, cloth, cordage, glass, carpets, matches, etc. Because of its being subject to earthquakes the city is largely built of low one-story houses made of brick. The district to the north and east is rich in coal, iron, limestone, sand, fire clay, and manganese. At Zipaquirá, 35 miles to the north, are large salt mines, operated by the government, and which supply nearly all the national demand. Bogotá has telephone and tramway systems and has rail connection with Facatativa (25 miles), Zipaquirá, Soacho (17 miles) and with Girardot on the Magdalena River, 67 miles distant, and thence by the river route to the northern seacoast 700 miles distant.

In the time of the Spanish occupation it was a centre of learning and is to-day one of the noted cities in South America for culture and education, having a number

of colleges, a good school system with an enrollment of 10,000, and a large number of periodicals. Although it is so far in the interior, it has great importance as a trade centre.

## Medellín

The second city of Colombia and the capital of the important and populous Department of Antioquia is situated at an elevation of about 5,000 feet, giving it a pleasant and temperate climate. It is 125 miles northwest of Bogotá, and about 90 miles from the Pacific coast. Its streets are broad, straight and well-paved and lined by many handsome buildings. It has a good water system, an electric lighting system, a flour mill, manufactories of soap, wax matches, candles, clothing, and shoes, chocolate, tobacco, clocks, paper, and articles of gold and silver. Gold in bars to the extent of $300,000 a month or more is sent to the United States and England. Its commerce is considerable and there are also a number of iron foundries. Medellín has rail connection with Puerto Berrío, on the Magdalena River. A consular agent of the United States is stationed here.

## Cartagena

Cartagena is a fortified seaport and capital of the Province of Bolívar. It is situated on a peninsula at the eastern entrance of the Gulf of Darien, about 80 miles southwest of Barranquilla. The climate is unhealthful and there is an average temperature of 82° F. Cartagena has the largest and best harbor in Colombia, with 40 feet of water, and serves as the port for all the ocean trade of the western country adjoining the Caribbean. A fourth or more of the Magdalena River traffic also passes through it, carried by a railway 55 miles long joining the city with the village of Calamar, on the river. There are banana plantations in the neighborhood, and oil also exists in considerable quantities. Cattle, hides, fine woods, precious stones and tobacco are exported and there are manufactories of chocolate and candles. The new harbor of Sabanilla is taking a large amount of goods which formerly went through Cartagena. Cartagena was the classical port of the Spanish Main. It is the seat of a United States consul.

## Barranquilla

This modern city is situated just above the delta of the Magdalena River, with which it is connected by a canal. It is the principal commercial city of the Republic, as a large part of the imports for the upriver trade and of the exports from the interior pass through it. The land around it is supposed to contain petroleum and some prospecting has been done. The city has manufactories of underwear and stockings, safety matches, cotton suiting and toweling, jute bags, chocolate, glass, and various other articles, besides cotton and flour mills, and a public electric lighting and power system. Barranquilla is connected by a railroad with the port of Sabanilla, 14 miles to the northeast. It is the seat of a United States consul. Coffee and hides form the bulk of its export trade. Recently the government has taken measures to provide a channel that will admit boats to pass the mouth of the Magdalena River up to Barranquilla and has begun the construction of piers and warehouses there.

# ECUADOR

By Marrion Wilcox

## SITUATION AND PHYSICAL FEATURES

ACCORDING to the claims of its own government, *La Republica del Ecuador* (The Republic of the Equator), is bounded on the east by Brazil, extending from the Pacific Ocean, at lon. 82° 55′ W., to lon. 72° 12′ W., and from lat. 1° 50′ N. to lat. 5° 30′ S., but nearly all of the region east of the Andes is claimed by Peru, and the boundary with Colombia is also in dispute. (See Colombia.) Therefore, it is bounded on the north and northeast by Colombia, and on the southeast and south by Peru, according to the adverse views entertained by those competing governments. The area in its actual possession, including the Galapagos Islands, is about 120,000 square miles; the total area, if we include disputed territory, is nearly 276,000 square miles. For territorial divisions with their capitals and populations see Provinces and Cities, p. 362.

The cordilleras of the Andes traverse Ecuador, running nearly north and south, with elevated plains between the eastern and western mountains — some of the latter forming a sequence that has suggested to geographers two parallel chains; and it is, indeed, true that the eastern and western limits of the broad band of Ecuadorian upland roughly parallel each other. There are four facts of special interest: First, Though we do not find here the highest single peaks in the world, or even in South America, there are nowhere else so many peaks of very great height, forming a group. Second, their equatorial situation gives to these masses of granite, gneiss, schist, trachyte, porphyry, volcanic detritus wholly exceptional contrasts in temperature. (See below, Climate.)

Third, this region has been in the past, and is probably today, more subject to volcanic disturbances than any other in South America. Fourth, as an offset to the group of high peaks, the Andean ridges sink downward, forming the lowest pass that exists at any point between Colombia and the southern division of the Andes. The principal rivers of the lowlands of western Ecuador, running from the central region of mountains and high plains to the Pacific, are the Guayas and the Esmeraldas. The former empties into the Gulf of Guayaquil. In the eastern lowlands, the Napo and its tributaries belong to the Amazon River-system. There are numerous small lakes.



**Summit of Chimborazo, Ecuador**
(View taken at altitude of 15,600 feet)

## Climate

The mean temperature of the coast at Guayaquil, etc., is 80° F., that of the interior ranges from 95° F. in the lower valleys to 65° F. or even 50° F. on the plateaus, according to the altitude. The lower slopes of the mountains are torrid; the highest crests are snow-clad. The elevated valleys of the Andes have a very salubrious climate. They lie at an altitude of from 7,500 to 9,000 feet, where the temperature is moderate and fever unknown. The climate of the capital is temperate and springlike throughout the year, with little variation, and it is said to be one of the best in the world for the cure of tuberculosis. There are two seasons only, the rainy lasting from December to May, and the dry from June to November. The first meteorological station in Ecuador was established in 1915. It has since been in successful operation at the Quinta Normal (Agricultural School), near Ambato. Substations are now established at Sangolqui, Saquimalag, Latacunga,

Pansaleo, Mulalillo, Pillaro, Palate, Pelileo, Banos, Pilahuin, La Victoria, and El Puyo. They are in charge of the director of the Quinta Normal, where the data are computed and reduced to tables each month, which are published in the *Bulletin* of the school.

### Mineral Resources

Petroleum, sulphur, gold, platinum, coal, copper, mercury, lead, and iron are found, but of these gold alone figures in the list of principal exports in 1914 (Report dated 1916). The Zaruma mines, province of El Oro, are worked on an extensive scale by an American company. That district contains numerous gold-bearing quartz veins, which were worked by the Spaniards 100 years ago. Along the Santiago, Cochabibi, and Uimbi rivers in the province of Esmeraldas there are placer deposits of gold, and platinum is found in conjunction with gold in the Esmeraldas washings. Silver also is exported to a small extent.

## HISTORY OF ECUADOR

The Quito Indians, who held the country near the present capital, were conquered, perhaps in the 10th century, by a more warlike race led by chiefs called Scyris. These in turn yielded to the Incas of Peru. On the death of Inca Huayna-Capac, the empire was divided between his two sons, Atahualpa and Huascar. The former, whose mother was a Scyri princess, revived the Quito kingdom; Cuzco and the southern empire were given to the latter. War broke out between the brothers shortly before the Spaniards under Francisco Pizarro arrived upon the scene, and this civil strife made possible the conquest of a great nation by a handful of foreign adventurers. (See PERU.) Benalcazar, the famous Spanish captain, completed the conquest of the Scyri kingdom, and seized the city of Quito (1534). Between 1564 and 1820 this region was administered as a presidency; and 36 presidents exercised authority there as representatives of Spain before the series of "presidents of the republic" began. Quito's first demonstration in favor of independence, 10 Aug. 1809, was quickly and savagely repressed; Guayaquil was more fortunate in her belated attempt (9 Oct. 1820). A campaign which resulted in the capture of Quito, after the battle of Pichincha, was organized by a triumvirate whose members were the poet José Joaquin de Olmedo, the merchant, F. Roca, and the soldier, Rafael Jimena. The battle of

Pichincha was won for the patriots by the Venezuelan general, Antonio de Sucre, Bolívar's lieutenant: the territory thus liberated was naturally drawn into the Colombian federation, which Bolívar dominated for a time. (See COLOMBIA.) In 1830, after the dissolution of that greater Colombia, Ecuador became an independent republic. The convention of Riobamba placed Gen. Juan



Street in Guayaquil, Ecuador

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José Flores at the head of the government. His successor (1835–39) was Vicente. Flores was again in power from 1839 to 1845, and, with the approval of many partisans, tried to secure a much longer term and dictatorial powers. A second triumvirate, composed of Olmedo, Roca, and Noboa, carried on the government until a convention was held at Cuenca. This convention elected Vicente Ramón Roca, who served as president from 1845 to 1849. Vice-president Acásubi assumed the presidency when congress and the country could not agree upon a candidate; the country, however, continued to be disturbed until 1851, when Diego Noboa was chosen by a constituent assembly. In the following year he was

displaced by Gen. José Maria Urvina, at the head of a successful revolution. Urvina was president until 1856. Slavery was abolished during his term. Gen. Francisco Robles followed (1856–59). During the next two years the country had a varied experience: war with Peru, the dictatorship of General Franco, and the provisional government of Gabriel García Moreno. The convention of Quito elected García Moreno to the presidency (1861–65). Jerónimo Corrion, elected in 1865, retired in 1867. Javier Espinosa served from 1868 to 1869. García Moreno, as the leader of an insurrection, took office again (1869–73), and in 1873, secured re-election by the use of force. He was assassinated 6 Aug. 1875. Antonio Borrero, his successor, was driven from office by Gen. Ignacio de Veintemilla in 1876. After the expiration of the legal period, President Veintemilla made himself dictator. José María Placido Caaĥaño was president from 1888–1892; Luis Cordero from 1892 to 1895 — when he resigned to put an end to bloodshed. General Alfaro, at first "supreme chief", was legally elected in 1897. Gen. Leonidas Plaza Gutierrez succeeded him in 1901. In 1904 all religions were made equal before the law, and eventually the nation was declared to be the owner of all church property. In 1905, the clericals elected their candidate for the presidency, Lizardo Garcia, but he was overthrown in January 1906 by ex-President Alfaro at the head of an "uprising", it is said, though really Alfaro led a "Falstaff's Ragged Regiment" and never thought his position secure — in 1911 he himself was assassinated in Quito, together with a number of leaders. The president elected in 1912 was Gen. Leonidas Plaza Gutierrez. In 1913 contracts were made for the sanitation of Guayaquil. In 1914 government forces attacked the port of Esmeraldas, which the rebel leader Colonel Concha was holding and a large part of the city was destroyed by fire. In 1915 difficulties of a serious financial character were discussed in connection with delayed payment of interest on bonds of the Guayaquil and Quito Railway, and the lien on the entire customs receipts of the country held by European investors in that railway enterprise.

## GOVERNMENT

Congress meets at Quito every two years, usually on 10 August, for a period of 60 days, which may be extended for another 30 days. The President of the Republic may also call an extraordinary session when deemed necessary or expedient.

There are two chambers: the Senate of 32 members (two senators from each province; term four years) and the Chamber of Deputies of 48 members (one deputy for each 30,000 inhabitants; term, two years). Both senators and deputies are elected by direct popular vote, every citizen over 21 years of age who can read and write being entitled to vote. The President of the Republic, elected for four years by direct vote of the people, cannot be re-elected until eight years have passed after expiration of the term of office. The constitution now in force, dating from 23 Dec. 1906, is the twelfth promulgated since 1830. According to its provisions, Ecuador is a centralized republic, but that is nothing new. In the event of the death or disability of the President, the president of the Senate or of the Chamber of Deputies, in the order mentioned, exercises the executive power. The President's cabinet is composed of the Minister of the Interior and Public Works, the Minister of Foreign Relations and Justice, the Minister of the Treasury and Public Credit, the Minister of Public Instruction, Post Offices and Telegraphs, and the Minister of War and Navy. In addition to this cabinet, there is a council of state which is consulted by the President in all important matters and which represents Congress when that body is not in session. It includes members of the cabinet, the president of the Supreme Court, the president of the Court of Accounts, two senators, two deputies, and three other citizens, the last seven members being elected by Congress. Under the constitution foreigners enjoy the same guaranties and civil rights as the citizens of Ecuador. Freedom of thought, of worship and of the press is assured. Women may exercise all the rights granted to Ecuadorians, and also have the free administration of their property, even when they are married. Aliens may acquire property, also public lands, and may establish banking institutions under the same conditions as Ecuadorians. Public credit is guaranteed, and funds set aside for the payment of public debt cannot be used for other purposes. (See also Local Government and Judiciary).

## Local Government

This is controlled, as in fact it was before the enactment of the latest centralizing constitution, by the central government. The local administrators, from the governors of the provinces down to the lieutenants of the parishes are all appointed by the President. Chief towns of cantones have municipal councils, commonly of five members. There are rural (mounted) and urban police, with a director or chief in each provincial capital.

### Judiciary

Ecuador's courts are: the supreme court, at Quito (five justices, elected by Congress for a term of six years, attorney-general, two secretaries); superior courts at Quito, Guayaquil, Cuenca, Riobamba, Loja, and Portoviejo, the first two being composed of six judges and the last four of three judges each, all elected by Congress for the same term as the members of the Supreme Court; court of accounts at Quito (seven judges) empowered to audit and investigate all public accounts and expenditures, its members being elected by Congress for a term of similar length to that of the justices; municipal civil tribunals of the first instance at Quito, Guayaquil, and Cuenca; fiscal judges for each province; judges of commerce in large towns; judges of mines, police, and parishes. In the Republic there are 33 cantonal and 359 parochial justices, and 85 solicitors admitted to practice. In criminal cases, trial by jury is provided for, but only in the larger towns.

## EDUCATION

Primary instruction is gratuitous and obligatory for children between 6 and 12 years of age. Among the subjects taught, beside the familiar elementary branches, are morality and religion, and urbanity. In the boys' schools the constitution of Ecuador is added; in those for girls, sewing and domestic economy. In 1916 public schools of primary grade were, in number, about 1,600, with 98,400 pupils. Secondary instruction is provided in 37 "colleges", with 371 professors and 4,500 students; the school year beginning 10 October and ending 30 July. The University at Quito, with associate universities at Cuenca and Guayaquil, has faculties of philosophy, belles-lettres, law, medicine, physical and natural sciences, mathematics and agriculture. There are in all nine schools of higher education with about 1,228 students. An officially authorized publication states that "a large number of primary and secondary schools have been confined hitherto (before 1900) to the religious orders, who have acquitted themselves of their task with zeal and success." Schools of arts and crafts are found in the provinces of Pichincha, Leon, Chimborazo, Azuay, Loja, and Guayas. Bahía has a commercial school. About $600,000 is expended yearly by the government on education.

## LITERATURE

José Joaquin de Olmedo (b. Guayaquil 1780) and Juan Montalvo (b. Ambato 1833) are by loyal Ecuadorians esteemed the former the greatest poet, the latter the greatest prose writer of South America. Ecuador was also the birthplace of José Mejia, the "American Mirabeau," and of many historians, theologians, poets, romancers, and critics whose works are as highly regarded in Spain as in America. The Ecuadorian Academy (founded 1875) is the chief of the literary associations of the republic.

## FOREIGN COMMERCE

The value of imports in 1914 was $8,402,767; of exports, $21,464,333, and the principal exports were: cacao, 47,210 tons; coffee, 2,980 tons; gold (in bars or dust), $365,324; "Panama" hats, $972,215; cattle hides, 811 tons; ivory nuts, 8,583 tons; rubber, 147 tons. The United States took exports valued at $3,588,130; France took $4,438,226; Germany, $860,302; United Kingdom, $1,230,555. Ecuador imported from the United States goods valued at $2,770,599; from the United Kingdom, $2,414,662; from Germany, $1,203,566; from France, $326,770. The value of imports in 1915 was $8,422,881; of exports $12,882,402. The principal exports were cacao, 81,712,773 pounds valued at $9,706,981; "Panama" hats, 300,375 pounds valued at $839,027; gold, $530,591; ivory nuts, 20,094,925 pounds valued at $526,519; coffee, 5,116,161 pounds valued at $463,413; cattle hides, 1,971,243 pounds valued at $289,333; rubber, 564,943 pounds valued at $196,447; leaf tobacco, 584,868 pounds valued at $89,825; leather, 163,803 pounds valued at $27,410; bananas, 3,522,475 pounds valued at $33,575. The exports to the United States amounted to $5,674,291, to the United Kingdom $2,669,280, to France $1,175,972, to Spain $582,834, to the Netherlands $982,410, to Italy $598,590. Textiles other than silk formed the principal import item in 1915, amounting to $1,795,101. Other important articles imported were gold and silver coin to the value of $1,416,232, foodstuffs $1,257,294, hardware $581,521, clothing $301,418, mineral products $327,315, machinery and parts $277,970. The imports from the United States in 1915 totaled $3,209,608, those from the United Kingdom

$3,353,333, from Italy $399,961, Spain $330,867, France $246,728. It will be seen from the above that the United States ranked first in purchases from Ecuador for 1915, with the United Kingdom second and France third, while in imports the United Kingdom occupied first place, the United States a close second, and France a distant third. Heavy purchases of materials for the sanitation of Guayaquil from the United Kingdom were largely responsible for the increased value of shipments from that country. Great increases were made by the United States in the sales of cotton piece goods, laundry soap, readymade clothing, straw hats, drugs and chemicals, paper, crackers, and a number of others, including canned goods, which have secured a permanent entry into this market. There were 185 vessels of 318,742 tons and 2 sailing vessels of 1,737 tons entered during 1915, as compared with 162 steam vessels of 335,561 tons and 7 sailing vessels of 12,125 tons during 1914. The exports from the port of Guayaquil in 1916 to the United States included 37,227,400 pounds of cacao, 173,143 pounds of coffee, 1,829,200 pounds of hides, 592,997 pounds of ivory nuts, and 121,317 pounds of rubber. Of cacao the United Kingdom took 23,772,000 pounds, of hides 143,730 pounds, and of ivory nuts 62,362 pounds. France took 10,095,225 pounds of cacao, 599,938 pounds of coffee, 29,378 pounds of hides, and 219,206 pounds of ivory nuts. Spain took 4,242,700 pounds of cacao, 558,956 pounds of coffee, 42,091 pounds of hides, 78,375 pounds of ivory nuts, and 10,683 pounds of rubber. Holland took 4,325,000 pounds of cacao, and Chile 2,528,834 pounds of coffee. The total exports of the port were 81,756,910 pounds of cacao, 4,645,218 pounds of coffee, 2,044,399 pounds of hides, 1,101,017 pounds of ivory nuts, and 132,000 pounds of rubber.

## BANKING AND FINANCE

The monetary system is based on the gold standard, the unit of value being the *sucre* (weight 0.8136 grammes of gold .900 fine, or say 0.73224 grammes of pure gold). The value of the sucre is $0.48665, currency of the United States; and the value of $1.00 in terms of Ecuadorean currency is therefore $2.05484. The actual currency of the republic is gold, silver and banknotes, but the only legal tender is gold. The new coinage consists of the gold condor of 10 sucres, weighing 8.136 grammes of gold .900 fine, or 7.3224 grammes of fine gold, equivalent to $4.866 in currency of the

United States, the silver sucre and its subdivisions, and nickel and copper pieces. (Compare Cosby, J. T., *Latin American Monetary Systems and Exchange Conditions* (New York 1915). Ecuador has four banks of issue: In Guayaquil, Banco del Ecuador (capital 3,000,000 sucres), and Banco Comercial y Agricola (capital 5,000,000 sucres); in Quito, Banco de Pichincha (capital 1,500,000 sucres); in Cuenca, Banco del Azuay (capital 400,000 sucres). Other banks are the Banco Hipotecario (capital 2,000,000 sucres) and the Banco Territorial. These are only mortgage loan banks. The fiscal revenues of Ecuador before the European War amounted to $10,000,000 American gold, derived chiefly from customs duties (on imports of $4,000,000 and on exports $2,600,000, alcohol tax $480,000, salt monopoly $360,000) and internal resources. (Consult *Proceedings of the First Pan American Financial Conference*, Washington 1915). The debt of the government to the local banks is partly consolidated, to be liquidated in 1927 and partly in current account. Beside this, the government owes about a million of six per cent internal bonds and $1,500,000 of floating debt, making a total of about $6,500,000. The foreign debt proper amounts to $1,000,000, and the guarantee of the bonds of the Guayaquil and Quito Railway, Ecuador Central Railway, and French Railway Company of Ecuador. (See page 404 of *Proceedings* cited above).

## AGRICULTURE

The cultivated area is limited, owing to the lack of laborers; nevertheless Ecuador has considerable agricultural resources. A large variety of crops are grown and the soil is exceedingly fertile. Ecuador produces more cacao than any other Latin American country except Brazil. It is grown principally in the provinces of Guayas, El Oro and Manabi. In 1914, 47,210, and in 1915, 40,000 metric tons were produced. Another product of considerable interest is that of the tagua or ivory nut, used in the manufacture of buttons, and of which over 40,000,000 pounds are exported annually. Coffee is cultivated in several districts, to the extent of several million pounds a year and considerable quantities are exported. Sugar cane and tobacco are grown on the lowlands of the coast. Of the former about 16,000,000 pounds are produced yearly, an amount which about satisfies the domestic demand. Rice, quina, maize, wheat, barley, oats and a number of medicinal and industrial plants are also grown to supply the home market.

and some are exported. The rubber tree is plentiful and this industry is growing fast, the rubber exported annually reaching nearly $1,000,000 in value. Alfalfa is cultivated and the pastoral industries are thriving.

## RAILWAYS, POSTS AND TELEGRAPHS

Sixty miles of the railway from Guayaquil to Quito were built before 1880, that is, from the coast to the village of Chimbo, at the base of the cordillera. There the enterprise was checked by the difficulties of construction. A company organized in the United States undertook to complete the road, and did so by 25 June 1908, since which time passenger trains have been making the trip (297 miles) in two days. The line starts from Duran, across the Guayas River from Guayaquil, and ascends the Andes to a height of 11,841 feet, when it descends to a height of about 9,000 feet and continues on to Quito. The gauge is 3 feet 6 inches, and the rolling stock consists of about 25 locomotives and several hundred passenger and freight cars. The Central Railway, from Manta on the coast to Santa Ana, is in operation as far as Portoviejo, 25 miles, and when complete will be 35 miles long. A railway which will connect Bahia, Caracas and Quito has been built as far as Choñe, opening up a cacao district. A number of other lines are authorized, among them being a 125-mile line from Ambato to the Curaray River, a line from Ambato to Banos, a line from Quito to a port on the Esmeraldas coast, and one from Guayaquil to the coast. The total extent of the telegraph system is 5,384 miles with 188 offices. The Ecuadorian landing-station of the Central and South American Telegraph Company's cable is at Salinas, which was declared open as a minor port by executive decree 21 Aug. 1902. Quito and Guayaquil have telephone services; the latter a street car system. There are four wireless telegraph stations—two main ones at Quito and Guayaquil each, one on the coast to the north of Guayaquil, and one on the Galapagos Islands. There are 168 post offices in the country, handling about 5,500,000 pieces of postal matter yearly. The mails are carried twice a week to all parts of the republic; to foreign countries once a week. Twenty passenger steamers ply on the Guayas River, and between Guayaquil and the other coast towns. English steamships of the Pacific line, and vessels of the Chilean line plying between Valparaiso and Panama, call regularly at Guayaquil.

## INLAND WATERWAYS

Some 20 steamers, as well as a number of sailing vessels, steam yachts, steam launches and gasoline launches maintain an active coast and river service, most of the numerous rivers of the country being navigable for considerable distances inland and affording excellent means of transportation. The Guayas River, at the mouth of which is the city and port of Guayaquil, is the most important of these waterways, being navigable for river steamers as far as Bodegas, 40 miles from Guayaquil, while smaller vessels can, during the wet season, reach Zapotal, some 200 miles inland. The Daule River is navigable for some 60 miles, the Vinces for 50 miles, while the Esmeraldas, Naranjal, Santa Rosa, Santiago, and Mira rivers are all navigable during the rainy season for short distances, varying from 10 to 60 miles or more. The Amazon River, which in Ecuador is given the name of Marañón River, is navigable almost in its entirety, and thus the eastern slope of the Ecuadorian Andes may be reached by way of Brazil and the Amazon River and its tributaries.

## ARMY AND NAVY

In time of peace, the army consists of 7,500 officers and men, and reserves numbering possibly 100,000. The regular force is composed of 13 battalions of infantry, one regiment of cavalry, and 12 batteries of artillery, besides some departmental troops. These serve one year and then pass to the reserve and second line. The second line army has 135 infantry battalions, seven artillery regiments and 44 cavalry squadrons. The regular infantry have the Mauser rifle; the artillery have old-fashioned Krupps. Military service is obligatory from 18 to 32 years of age in the army, and from 32 to 45 in the national guard. The compulsory law, however, is not generally enforced. A mining and torpedo section, a sanitary section, and a telegraph and telephone corps were created in 1910. The national guard includes companies of firemen — organizations which are especially numerous and influential in Guayaquil. The naval vessels are, one cruiser of 600 tons, one torpedo gunboat of 56 tons, one torpedo boat destroyer of 1,000 tons and a transport, with three launches, with a total equipment of about 200 men.

## POPULATION

The boundaries of the republic being in dispute, and a large part of Ecuador's claim being unexplored territory, estimates of the total number of inhabitants vary, naturally. The Ecuadorians usually say about 1,500,000 and of these from one-half to three-fourths are Indians, 300,000 to 400,000 half-breeds, and only 100,000 to 200,000 pure whites. There is a small number of negroes.

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## PROVINCES AND CITIES

The provinces of Ecuador, with their capitals and populations, are as follows:

| PROVINCES | Population | Capital | Inhabitants |
|---|---|---|---|
| Azuay | 132,490 | Cuenca | 21,000 |
| Bolivar | 43,000 | Guaranda | 5,000 |
| Cañar | 64,000 | Azogues | 4,000 |
| Carchi | 30,000 | Tulcan | 4,000 |
| Chimborazo | 122,000 | Riobamba | 18,000 |
| Esmeraldas | 14,600 | Esmeraldas | 6,000 |
| Galapagos | 500 | San Cristóbal | 200 |
| Guayas | 98,100 | Guayaquil | 72,000 |
| Imbabura | 68,000 | Ibarra | 14,000 |
| Leon | 139,600 | Latacunga | 6,000 |
| Loja | 60,000 | Loja | 12,000 |
| Manabi | 64,100 | Portoviejo | 10,000 |
| Oriente | 80,000 | Archidona | 4,000 |
| Oro | 42,600 | Machala | 4,000 |
| Pichincha | 240,000 | Quito | 60,000 |
| Los Rios | 57,800 | Babahoyo | 4,000 |
| Tungurahua | 134,000 | Ambato | 10,000 |

### Quito

The capital of the Republic is the second largest city of Ecuador. It is situated on the flank of mountain which gives its name to the province of Pichincha, 207 miles by rail northeast of Guayaquil and 114 miles from the Pacific. Thanks to its elevation above sea level (9,371 feet), the climate is healthful and temperate. The city is laid out on a rectangular plan and has several suburbs. The streets are steep and generally impassible for wagons. It is not well built, many of the

houses being of mean adobe, while the better ones are stuccoed. Cattle and sheep-raising are carried on in the surrounding district and the city's trade in these animals and their products is considerable. There are 22 mills in operation, devoted to the manufacture of flour, sugar, ice, cloth, candles, matches, cheese, leather, saddles, shoes, ponchos, blankets, carpets, etc. The embroideries and laces made by the women of Quito are famous. Electric lighting has been recently installed and there is a telephone system. It is the official residence of the Envoy Extraordinary and Minister Plenipotentiary of the United States accredited to Ecuador.

## Guayaquil or Santiago de Guayaquil

Capital of the Province of Guayas and the chief seaport of Ecuador, is situated on the west shore of the estuary of the Guayas River, at the head of the Gulf of Guayaquil. Its site is low, the climate is unhealthful and the water supply is bad. An effective system of sanitation to cost $10,000,000 was begun in 1913, and when completed it is expected that yellow fever and bubonic plague so long endemic here will be eradicated. In the older part the streets are narrow and badly paved, but are well laid out in the modern part. The city does most of the buying for the Republic. It is a good market for drugs, light hardware, flour, electrical and plumbers' supplies. Its chief exports are cacao, rubber, coffee, quinine, gold, silver and hides. The harbor is good and is protected by a breakwater. The city has a number of shipyards, ranking among the best on the Pacific coast of South America. The chief occupation is trade, both foreign and domestic. It is the seat of the United States consul general to Ecuador. The Guayaquil-Quito Railway starts from Duran, across the Guayas estuary from the city. Another line to the coast is in course of construction. This road will open up the coal regions of Ecuador, which are said to be very rich. A dozen newspapers are published in the city. There are manufactories of food products, ice, mineral waters, chocolate, liquors, alcohol, soap, candles, and hats. There are 2,250 telephone instruments in use in the city. In 1914 there entered the port 162 vessels of 335,561 tons and cleared 162 vessels of 340,727 tons. Guayaquil is visited by the steamers of three European lines, as well as by steamers plying on the Pacific coast via the Panama Canal.

## Cuenca

Capital of the Province of Azuay, is the third city of Ecuador. It is situated 8,640 feet above sea level, on the Rio Matadero, 190 miles south of Quito. Its streets are straight and it is fairly well-built. The surrounding region produces cotton, sugar and cochineal and rich metal deposits are worked nearby. The city has a large trade in cheese, grain and preserved fruits and other products of the region and has manufactures of pottery, hats and woolens. It is a centre of literary and artistic life in the Republic.

## Other Cities

Riobamba, Ambato, Loja and Latacunga are the most thriving of the lesser cities. Their interests are purely local and their trade small. Bahía Caraquez, and Esmeraldas are on the coast; their ports open to the trade of all nations. Ibarra, to the north of Quito is situated in a rich interior and is growing. Portoviejo is situated 25 miles from Manta on the coast, and is connected with it by rail. It has an important trade in coffee and ivory nuts.

# PARAGUAY

By Marion Wilcox

## NATIONAL BOUNDARIES, GEOGRAPHY, ETC.

THE Republic of Paraguay is a country of South America, enclosed between Brazil, Argentina, and Bolivia. Estimates of the total area range between 122,000 square miles and 196,000 square miles. (See below: subtitle History and the long-standing boundary disputes, etc.) The chairman of the Delegation of Paraguay to the First Pan American Financial Conference estimated the superficial area at 445,000 square kilometers; the Pan American Union handbooks give 507,640 square kilometers, or 196,000 square miles.

The country is divided into two sections by the Paraguay River, the eastern section being called El Paraguay Oriental and the western El Gran Chaco or El Paraguay Occidental. For the purposes of government, Paraguay is divided into 93 departments, which are grouped to form 20 electoral districts. (See Political Divisions and Cities, p. 375.)

A consequence of the government's efforts to encourage immigration and colonization is seen in the establishment of the following colonies — Villa Hayes Colony, nearly opposite Asunción in El Gran Chaco, settled by families from Switzerland, France, Italy, Belgium, Germany, Austria, and Spain; San Bernardino Colony, settled principally by Germans; Colonia Nacional, on the railway from the capital to Villa Encarnación; Nueva Alemania Colony, in the department of San Pedro; Elise, or San Antonio, Colony, in the department of San Lorenzo de la Frontera; Nueva Australia Colony, containing Australians, English, and Paraguayans; Colonia Cosme, in the department of Caazapá, also

inhabited by Australians; Colonia Guillermo Tell, a Swiss settlement; and the Hohenau Colony, a small community of German, Brazilian, and Paraguayan coffee planters.

## Topography and Hydrography

The general level of the Chaco and the lowlands of the western part of El Paraguay Oriental is approximately 250 or 300 feet above that of the sea; the eastern side of Paraguay is, however, much higher, with the exception of the extreme southeast, which



**Frontage of Asunción, Paraguay, on the Paraguay River**
(Courtesy of the Pan American Union)

is a low-lying, swampy region. An extension of the plateau or highlands of Brazil is seen in the northeast, the so-called Sierra of Amambay, with lateral spurs running toward the Paraguay River. Through the centre of the country, from Villa Encarnación toward the northeast, run the cordillera of Villa Rica and the Caaguazú Mountains; and a transverse range, crossing the Paraná River into Brazil, forms the great cataract of Guayrá. These ranges have an elevation above sea-level of 1,500 to 2,000 feet. The position of Paraguay Oriental has been aptly compared with that of the State of Illinois for its southern boundary is at the confluence of two great rivers, and more than 800 miles above Buenos Aires and the La Plata estuary. Of these rivers, one, the Paraguay, forms the western boundary below Asunción, while, above the capital, it passes between the eastern and western divisions of the republic, as already stated; the other, the Paraná,

separates Paraguay from the Argentine Republic and Brazil on the south and southeast. A large part of the territory lying between these great streams is not yet well known. The Pilcomayo River, flowing southeastward from Bolivia, forming the southern boundary of Gran Chaco, and joining the Paraguay below Asunción, is navigable for a distance of 150 miles from its mouth. The Paraná flows 1,367 miles from its source in Goyaz, Brazil, before uniting with the Paraguay; the latter is about 1,800 miles long; both have large tributaries in Paraguay Oriental.

### Mineral Resources and Soils

The northern part of Paraguay is covered with limestone, while the southern is of sandstone formation. Marble is reported as abundant in the north, iron in the south. Several veins of copper have been found. Other minerals, according to semi-official statements, are: kaolin (in the departments of Caápucú, Ibacu, Quiqlio, Villa Rica, Cordillera, Villeta, and Luque); talc; graphite; serpentine stone; basalt (near Villa Encarnación); manganese in several deposits that are thought to be extensive. There are four distinct varieties of soil, namely, (1) sandy, either white or red, the latter being fertile; (2) a good agricultural soil, consisting of clay and quartz, oxide of iron, lime, and miscellaneous substances; (3) humus, characteristic of forest lands; and (4) the black alluvial deposits, prevailing in western Paraguay.

### Climate

Paraguay is regarded as a sanitarium by the inhabitants of some of the neighboring countries; and it is quite true that the capital and its suburbs are moderately healthful. The mean temperature at Asunción is about the same as that of Cairo, Egypt; Hongkong, China; and Caracas, Venezuela, while the mountainous interior regions are decidedly cooler. Rain is abundant throughout the year; snow is entirely unknown; storms, with accompanying high winds and very severe thunder and lightning, occur frequently. (For a record of temperatures and for comment on the climate values of altitude, etc., see LATIN AMERICA, p. 9.)

## HISTORY

Sebastian Cabot, in 1527, explored the Paraná, and sailed up the Paraguay to the mouth of the Bermejo in the following year. Hoping that a passage to the land of gold and silver mines, Upper

Peru or Bolivia, would be found in some part of this great river-system (a hope which still leads explorers along the courses of the Pilcomayo and Bermejo), 300 Spanish adventurers, in 1536, proceeded up the Paraguay to the site of the present city of Asunción, where they built a fort. This outpost became a centre of military enterprise, and, after 1609, of missionary work among the natives. The Spanish province of Paraguay embraced the whole region south of the Portuguese possessions in Brazil and east of the Andes until 1617; but when Buenos Aires was made a provincial capital the jurisdiction of the governors, afterward viceroys, at that city extended over the settlements on the Paraguay and its tributaries, as well as those on the Paraná and La Plata. The Argentine general, Belgrano, incited the Paraguayans to revolt against Spain in 1810. On 14 May 1811 Pedro Juan Caballero with a few companions took possession of the Spanish barracks, and the next day compelled Governor Velazco to divide his authority with two leaders of the revolution. An assembly which began its sessions on 11 June 1811 renounced allegiance to Spain, and this declaration was ratified by the Congress which assembled for the first time on 1 Oct. 1813, and on the 12th vested the executive branch of the government in two consuls, Gaspar Rodriguez Francia, a doctor of theology, and Sr. Yegros. Dr. Francia became dictator (1814–40). After his death the Paraguayans experimented with a government of four military officers, which was superseded by a triumvirate on 23 Jan. 1841; the triumvirate in turn was replaced by two consuls on 12 March, and next, from 1844 to 1870, the whole power of the state was grasped by Carlos Antonio Lopez and his son and successor Francisco Solano Lopez. The younger Lopez made deliberate preparations for a war of conquest. When the time was ripe for action, he issued, through Congress, a declaration of war against Argentina, 18 Mar. 1865. Argentina, Brazil, and Uruguay formed an alliance to oppose him. Paraguay was defeated and almost depopulated in a struggle which ended with the death of Lopez, 1 Mar. 1870. A comparison of the official census of 1857 with that of 1873 shows, allowance being made for increase at the normal rate between 1857 and 1865, that Paraguay lost more than 1,200,000 inhabitants during the war — her entire population, except 28,746 men and 202,333 women and children. It is proper to assume exaggeration in the earlier census, while the later one was undoubtedly defective; but, even so, the disaster must be regarded as the severest that any small nation in recent times has sustained, rising from such a trial still

resourceful and independent. To Brazil, Paraguay ceded the territory on the north and northeast; to Argentina, by the treaty of 3 Feb. 1876, the district south of the Pilcomayo. But a distinguished arbitrator, the President of the United States, 12 Nov. 1878, awarded to Paraguay a district north of the Pilcomayo, which Argentina claimed.

During the last decade, 1908–1917, the resort to arms for the decision of political disputes has not been discontinued; and if we review the entire period since 1870 (see GOVERNMENT) we realize the force of the statement that "only three presidents (under the constitution then adopted) have been allowed by revolutionists to complete the term of office." Recent disturbances of the public order were those of 2 to 4 July 1908, which led to President Ferreira's resignation; of 1910 and 1911, when Manuel Gondra and Albino Jara were compelled to resign; of 22 Mar. 1912, in view of which President Pena and his cabinet took refuge on foreign warships; of 27 April to 13 May the same year, when the revolutionary efforts came short of success, and within a week Eduardo Schaerer was elected to the presidency for the four-year term beginning 15 Aug. 1912; of January 1915 (the Escobar revolt), when another revolutionary failure was recorded and martial law was declared. On 19 July 1915 a treaty was signed with Bolivia, the aim of both countries being to secure, if possible, a just and amicable settlement of difficult questions relating to the boundary dispute and conflicting titles to the Chaco.

## GOVERNMENT

The constitution of 1870, now in force, vests the powers of the government in three co-ordinate branches, the legislative, executive, and judicial. The National Congress, consisting of Senate and Chamber of Deputies, meets each year at Asunción. Senators, elected by the people, by universal suffrage, one senator for each 12,000 inhabitants, serve for six years. Deputies, similarly chosen, but in the proportion of one for each 6,000, serve four years. "The executive power," says the constitution, "shall be vested in a citizen, to be called President of the Republic of Paraguay. In case of sickness, absence from the capital, death, resignation, or dismissal of the President, the executive power shall be exercised by the Vice-President." Both president and vice president are chosen by an electoral college, serve for four years, and

" cannot be re-elected except after the lapse of two presidential terms." Numerous provisions of the constitution are designed to guard against the revival of dictatorships, or undue extension of the powers of the executive (see History). In regard to the cabinet, Article 104 provides: " Five ministers or secretaries, respectively called of the Interior; Foreign Relations; the Treasury; Justice, Worship, and Public Instruction; and War and the Navy, shall attend to the business of the nation, and legalize with their signatures the acts of the President. Those acts without their signatures shall have no efficacy." To the foregoing, the Ministerio de Fomento (Department of Promotion) has been added, making the number of cabinet members at present (1917) six instead of five. These Ministers are responsible to Congress. The judicial power is vested in a supreme court, consisting of three justices, and having " the right to inspect and supervise the action of all inferior courts "— that is, in practice, the courts of appeal, and criminal, police, first instance, and justices' courts.

An interesting side-light is thrown upon the constitutional provisions designed to curtail the chief executive's authority when we recall the circumstance that prior to the war with the Triple Alliance Paraguay had no debt, either domestic or foreign. Her first foreign loans were negotiated in 1871–72 at London; and on 31 Dec. 1901 the debt thus contracted amounted to $4,787,077.86. On the same day, the Brazilian and Argentine indemnities, results of the war, amounted to $9,876,466 and $9,563,990 respectively. (See section Banking and Finance, p. 373.)

## RELIGION AND EDUCATION

Article III (Pt. I, Chap. I) of the constitution provides: " The religion of the state is the Roman Catholic Apostolic; Congress, however, shall not have power to forbid the exercise of any other religion within the territory of the republic. The chief prelate of the Paraguayan church shall be a Paraguayan." Article VIII declares: " Primary instruction is compulsory," directing Congress to " promote by all possible means the instruction of the citizens." Professors at the national college are appointed by the President of the republic, though nominated by the council of that institution. The entire educational system was, from 1609 to

1767, entrusted to the Jesuits; the tendency to nationalize it has grown strong principally during the last 40 years. In all schools the Spanish language is taught, and the Guaraní, though still the tongue of the common people everywhere outside of the larger towns, is gradually being displaced; it is even prohibited within the college precincts. The educational system adopted by the government provides for rural schools, with three grades; elementary schools, with four grades; and more complete schools with six grades (consult *Report of the Commissioner of Education for the year ended 30 June 1915*, Washington 1915). An agricultural school is being established at Ypacarai, with two instructors, who have been educated abroad, in charge of courses of study. The system of employing teachers for special subjects, which prevails in secondary schools throughout South America, is applied to a certain extent in Paraguay's elementary schools.

## INDUSTRY AND COMMERCE

### Forest and Agriculture

Woods which are valuable on account of their extraordinary durability and powers of resistance are characteristic forest products; many of these being so heavy that they sink when thrown into the water. Dyewoods of many varieties, medicinal and resinous trees, wild vanilla, etc., are found. The chief and most distinctive product of the country is yerba, the "Paraguayan tea," also called yerba maté; sugar cane, cotton, tobacco, mandioca, rice, maize, coffee, textile plants (caraguatá, ibira, etc.), oranges, bananas, and grapes are successfully cultivated. A memorandum submitted by the Delegation of Paraguay to the First Pan American Financial Conference, held at Washington in 1915, contains the statements that the "artificial cultivation" of yerba maté, tried until recently without good results, has finally been successful, and now extended plantations of it may be seen; that the cultivation of tobacco is being perfected, thanks to the efforts of the Banco Agrícola; that the yield of cotton of fine quality, with long, silky, and strong fiber "is proportionally superior to that of any other cotton-raising country"; that sugar cane, rice, and Indian corn are cultivated with easily-won success; and that the list of agricultural products, some of them unknown elsewhere, includes mamón, mandioca, tártago (from which castor oil is

locally extracted), coffee, wheat, olives, coco, ramie, barley, vanilla, cinnamon, etc. Forests cover about one-half of the total area, and these contain "an incalculable wealth in woods for construction and for cabinet-making," of which the following are of demonstrated utility: curupay and lapacho, both very durable; incienso, a strong and flexible wood; ibiraró, considered a good substitute for teakwood; cedar and petereby, the latter as well as the former suitable for cabinet-making; timbó and ibyrapytá, both very abundant, and the latter useful as a material for paving blocks; laurel, used for railway ties; guayaybí, with qualities similar to those of hickory; palo santo, "suitable for axle bearings, in place of metal"; quebracho the *axe-breaker*, etymologically, and well known industrially as a source of tannin and as resistant material for railway ties. Among the numerous resources on which the country depends, cattle raising is mentioned as one of the most profitable, pasture-land being abundant, well watered, and provided with natural shelter for the animals.

The tobacco industry reached the maximum figures in 1916, the entries in the market amounting to 77,804 bales in the first 11 months of the year, or 13,830 bales more than in the previous year. Only 61,000 bales were exported in the 1916 period, as low water in the river temporarily obstructed exportation. The live-stock industry, which is counted as the chief source of wealth in Paraguay, has been developing recently and is receiving a new impulse under the prospect of the establishment of a packing house by manufacturers from the United States. The exports of live animals to Argentina have not varied greatly in the last four years, the figures being as follows: 1913, 39,564 head; 1914, 24,385; 1915, 29,509; 1916, 29,940. A census taken of the live stock in Paraguay in 1915 gave the following figures: Horned cattle, 5,249,043; sheep, 600,000; horses, 478,000; mules, 17,000; asses, 18,000; hogs, 61,000; and goats, 87,000. Among the cattle countries of South America that have cattle for export, Paraguay is said to occupy second place with 11.8 head per square kilometer and 5,249 beeves for each 1,000 inhabitants of the country. In addition to the exports of live animals, animal products were exported from Paraguay in the first 11 months of 1916 in considerable quantities.

### Some Characteristic Industrial Products

The very moderate activity we have observed in the industrial life of Paraguay is directed chiefly to forest industries, such as the production of tannin at Puerto Casado, Puerto Sastre, Puerto

Max, Puerto María, Puerto Galileo, and other places. The preparation of woods for exportation is carried on at the Nogués and Pinasco plants, at Puerto Médanos and many other points that are connected with ports of shipment by private railways. Exploitation of Paraguayan tea (yerba maté) is to a large extent controlled by the organization known as The Industrial Paraguaya.

In the making of the very beautiful ñanduti lace, Paraguayan art and industry unite, contributing equally to a charming product — the artistic tradition being an inheritance from the early days of the Spanish occupation, while the exemplary patient labor in the execution of traditional lace designs is, of course, a characteristic expression of that limited art-impulse of the aborigines which is associated with patient workmanship. Excellent hammocks are made by the same painstaking folk. As meritorious products we mention also the native cigars, the great variety of preserved fruits (native fruits in native cane sugar), and the extract from the leaves of a native orange tree which is known commercially as petitgrain or oil of petitgrain.

### Imports and Exports

The values of foreign commerce for the year 1915 were, for imports $2,340,510 and for exports $5,409,858; a total of $7,750,368 only, whereas in 1913 the total was $13,539,744 gold, and $9,441,807 even in 1914, when the effects of the European war were first apparent. Before the war, an increase was noted from year to year, and the chief sources of imports were then in Germany, England, Argentina, France, Spain and Italy; the articles imported being textiles, foodstuffs, hardware, fancy goods, wines, spirits, drugs and chemicals, ready-made clothing, chinaware and crockery, hats, rugs and carpets, shoes, jewelry, and railway or tramway materials. The principal exports are live stock, wool, dried beef, oranges, tobacco, cocoanut bran, essence of petitgrain, extract of quebracho, yerba maté, palms, and many kinds of wood. Commercial interchange with the United States during the years 1910–17 was on a footing of small values for exports from Paraguay — only about one-third as much as the total of Paraguay's imports from the United States during that period. In 1914 Paraguay's exports to the United States were valued at $10,668, and her imports from the United States at $413,937; but in 1915 the figures were: Paraguay's exports to the United States valued at $292,410 and imports from the United States, $209,148.

## BANKING AND FINANCE

The Banco de la República (authorized capital $20,000,000 gold, $6,000,000 already subscribed) and the Banco Mercantil del Paraguay (authorized capital, in terms of the depreciated currency described under *Monetary System*, 25,000,000 paper pesos and 20,000,000 paid in) both have headquarters in Asunción. The Banco de España y América, with main offices in Buenos Aires, has a branch in Asunción (capital $2,200,000 gold). Some of the smaller cities have agencies of the foregoing. The normal banking rate is 12 per cent annually. The Banco Agrícola (capital originally 15,000,000 pesos legal money and recently increased to 30,000,000 currency pesos) has official standing as an institution authorized to assist farmers and manufacturers with loans at a reduced rate of interest and also to supply advice and instruction in regard to methods of cultivation.

The internal debt, as stated in the *Financial Congress*, was $559,675 gold and 11,564,572 currency pesos; to which amount $394,119 gold and 33,913,373 currency pesos are to be added as the aggregate of individual claims for damages sustained "during past epochs of revolution." The balance of the treasury's debt to the Banco de la República, of $615,995.43, was adjusted by grant of a privilege connected with a certain tax imposed on exports. The recent issue of 60,000,000 pesos, paper, has nearly doubled the amount outstanding, which is now 125,000,000 pesos, equivalent to 8,333,000 gold pesos, approximately. In 1915 the amount of the foreign debt, arising from the loans of 1871 and 1872 made in London, was $3,370,418.12. The government's chief sources of income are customs duties on imports and exports, land and postal taxes, internal consumption revenues, etc.

### Monetary System

The nominal unit of Paraguay's monetary system is the gold peso of Argentina weighing 1.6129 grammes of gold .900 fine, or say 1.4516 grammes of fine gold (par value $0.96475, currency of the United States), but in actual circulation we find only inconvertible notes of almost incredibly slight purchasing power. Large amounts may be "reduced to gold" theoretically at the rate of 1,500 per cent, according to an authoritative statement in the *Pan American Financial Conference Proceedings*, 1915. The fact that practically no gold or silver coins circulate in Paraguay, the currency being limited to the depreciated paper, is mentioned in

*Latin American Monetary Systems and Exchange Conditions*, by Joseph T. Cosby (New York 1915). Mr. Cosby adds: "No provision is made for the redemption of the outstanding notes, with the exception of a small volume of notes known as Moneda Nacional"—this national money being guaranteed by a gold reserve of one-tenth of the issue, and having a stable value on that basis. When fractions of the paper peso in the form of nickel coin were placed in circulation, the paper currency depreciated so rapidly that the intrinsic value of the nickel coins soon exceeded their monetary value. Therefore those coins, tending to disappear from circulation, occasionally are sold as curiosities. Only in foreign remittances do we note the employment of exchange payable in gold and commanding a high premium.

## WATERWAYS, RAILROADS, POST OFFICES, ETC.

River steamboats maintain communication between the capital and the city of Buenos Aires, and a railway, with train ferry across the Alto Paraná from Posadas to Villa Encarnacion, also connects the same cities. The upper reaches of the Paraguay River above Asunción and, to a limited extent, the lower Alto Paraná are navigable — in many places precariously; even below Asunción, indeed, the channels shift suddenly and are hard to find. Travel and transportation between Paraguay and the great world outside are thus difficult, inadequate, and controlled by a single foreign state; naturally therefore the landlocked country is seeking now by pacific arrangement, as it sought in the last century by force of arms (see HISTORY), its exits and its entrances — among which there is to be mentioned the projected line of railway from Asunción to Paraná, near the magnificent falls of Yguazú, and thence by a Brazilian line to the Atlantic Ocean. The baffled yet admirably hopeful country has 400 post offices and 2,000 miles of telegraph lines, with stations at all the chief towns from Asunción southward.

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## POLITICAL DIVISIONS AND CITIES

The Republic of Paraguay is divided into 20 Electoral Districts, which in turn are subdivided into 93 Departments. The Districts are numbered I to XX. Their populations, capitals and populations of the latter are as follows:

| DISTRICTS | Population | Capital | Population |
|---|---|---|---|
| I | 34,580 | Villa Concepción | 12,600 |
| II | 37,429 | San Pedro | 8,928 |
| III | 36,195 | Altos | 8,716 |
| IV | 30,262 | Barrero Grande | 9,143 |
| V | 31,182 | San José | 9,120 |
| VI | 19,274 | Ajos | 6,283 |
| VII | 32,297 | Villa Rica | 26,931 |
| VIII | 25,886 | Hiaty | 7,046 |
| IX | 28,531 | Caazapá | 16,341 |
| X | 28,418 | Yutí | 10,953 |
| XI | 22,978 | Villa Encarnación | 12,496 |
| XII | 30,365 | San Ignacio | 5,121 |
| XIII | 22,535 | Ibera | 10,253 |
| XIV | 30,454 | Quindy | 11,943 |
| XV | 38,822 | Paraguarí | 10,528 |
| XVI | 28,608 | Itaugué | 8,820 |
| XVII | 37,435 | Luque | 16,501 |
| XVIII | 38,633 | Itá | 12,329 |
| XIX | 16,363 | Villa Oliva | 5,304 |
| XX | 37,193 | Villa del Pilar | 8,697 |

| | Area, square miles | Population |
|---|---|---|
| Total | 65,000 | 607,643 |
| Chaco Territory* | 100,000 | 25,000<br>100,000 uncivilized Indians |
| Grand total | 165,000 | 732,643 |

* In dispute with Bolivia.

### Asunción

The capital and largest city of Paraguay, is situated on the east bank of the Paraguay River, about 1,100 miles from Buenos Aires, with which seaport splendid steamboat communication is maintained. The river at this point is over 600 yards in width. The city is well built and contains many noteworthy buildings. There are distilleries, mills, foundries, and shipyards, and many manufacturing plants producing quebracho extract, beef extract, yerba maté, and essential oils, and for domestic consumption, sugar, furniture, soap, leather, alcohol, and bricks. It is the chief centre of trade for the entire country, both in imports and exports; tobacco, leather, sugar and maté are the chief articles of export. Asunción is connected by rail with Encarnación, 250 miles distant on the Argentine frontier, and there is through rail connection with Buenos Aires. It is the official residence of the United States minister to Paraguay and the seat of a United States consul. The population is estimated at 80,000.

# PERU

By Marrion Wilcox

## NATIONAL BOUNDARIES, GEOGRAPHY, ETC.

THE Republic of Peru is a country of South America, bounded on the north by Ecuador and Colombia, on the east by Brazil and Bolivia, on the south by Chile, and on the southwest and west by the Pacific Ocean. The location of the northern boundary is a subject of dispute, both Ecuador and Colombia as well as Peru laying claim to a region about 100,000 square miles in extent adjoining the Marañon River. During recent years the clashing of outposts of the forces of the competing nations in that region resulted in loss of life. On the south, Chile holds Tacna and Arica, which were not ceded by definite agreement until 1912 (See section History). Other portions of the national territory have also been subject to adverse claims; moreover no thoroughly reliable surveys of the eastern district have ever been made. Estimates of the total area are, therefore, naturally far apart; 480,000 square miles being preferred by the British authority, C. R. Markham, while the Lima Geographical Society gives 695,733 square miles, and the government claims 679,600 square miles. (For the departments see Political Divisions and Cities, p. 392.)

### Topography and Hydrography

The maritime cordillera, rising about 20 miles from the coast, and the great ranges of the Andes farther inland, divide Peru into three principal regions: (1) The central, called the sierra, including the parallel chains of mountains — the Maritime and Central Cordilleras and the Andes proper, or the eastern chain — together with transverse ridges, table-lands, deep gorges, and intermediate

valleys; (2) the montaña, all that territory lying between the eastern Andean slope and the Brazilian and Bolivian frontiers; (3) the arid coast region. In the sierra the mountains of the western part are volcanic, while those of the east have an entirely different geologic history. To the former are ascribed the violent earthquakes which have so often afflicted the country. Both western and eastern ranges show through their whole extent peaks of great height. The heart of the sierra, where Inca semi-civilization arose, is in a comparatively limited section, measuring about 380 miles from south to north between the great transverse ridge of Vilcañota and that of Cerro de Pasco. The main natural features of the montaña are the rivers Marañon, Huallaga, and Ucayali, each of these being navigable, and all uniting to form the stream which here is called the Marañon but on its lower reaches the Amazon. The sources of these are in the sierra; in first, rising in Lauriocha, 14,250 feet above sea-level, descends quite rapidly until at Manseriche; the last rises in a mountain turn that sends its waters both southward to Titicaca and northward to Iquitos; on the other hand the southernmost portion of the montaña forms its rivers on the eastern slope of the Andes, and sends them as affluents to the Madeira system. The absence of rain on a large part of the Pacific coast is due to the circumstances that the prevailing winds from the east lose all their moisture in passing over the Andes, and this is not replaced by evaporation.



Senate Building, Lima, Peru
(Courtesy of the Pan American Union)

Numerous rivers, rising in the central or western Cordilleras, make their way to the ocean across this desert. The most important harbor, that at Callao, has been improved by extensive works. Principal lakes are: Titicaca, 12,545 feet above sea-level, about 80 miles in length and 40 in breadth, its southern portion enclosed in Bolivian territory; Arapa; Umayo; Chinchay-Cono (at an altitude of 13,800 feet), 37 miles long by 7 wide; and Parinacocha, 12 by 6 miles.



Bridge, Rimac River, Lima, Peru

## Mineral Resources

The old accounts of the discovery and exploitation of Peru's chief mining zones during the colonial epoch make important chapters in the history of that period. The development of this industry was stopped, first, by the abolition of compulsory Indian labor, and, secondly, by the revolt of the Indians and the prolonged war for national independence. The founding of the School of Mines in 1874 and the passage of the mining law of January 1877, which made the holding of mining property perpetual and irrevocable (contrary to the practice under the old Spanish codes), lent renewed vigor to this national industry. An authoritative statement in 1915 gave the total output of the mines and oil wells each year as about $25,000,000, copper leading, followed by silver, petroleum, coal, gold, etc. A region which is regarded at present as the richest in gold is in the southeastern part of the republic. Vanadium and molybdenum have recently been discovered. Silver ore occurs very generally throughout the entire Andean region, often combined with copper or lead; the district most famous in this respect is the Cerro de Pasco, department of Junin, which has produced since the date of its discovery by the Spaniards (1630) more than 30,000 tons of silver. To that department are credited now, as output for one year, 240,000 pounds of silver, 28,000 tons of copper, 170,000 tons of coal, and 5,000 tons of lead. The annual production of petroleum is over 1,000,000 barrels, the oil districts being Zorritos, Chimbote, other places near the seashore, and Puno, near Lake Titicaca. True copper veins, containing only that metal and a small proportion of silver and gold, are found near the coast; copper ores containing sulphur, arsenic, and anti-

mony in the sierra. A national mining congress was held in July 1917 to define the position of the Peruvian government in the encouragement of the mining industry.

### Flora and Fauna

The cinchona tree, from which quinine is obtained; the India rubber, sarsaparilla, vanilla, etc., are characteristic of the montaña. Sugar cane, maize, cotton, coca, cocoa, coffee, and tropical fruits are grown in the valleys; the sierra shares with the Chiloe Islands such credit as may be given to the original home of the potato. The fauna includes, besides species mentioned in the articles COLOMBIA and ECUADOR, the alpaca, llama, and vicuña. Among avifauna, the condor is conspicuous, and sea birds (the gulls, tern, etc.), in great numbers frequent the small islands near the coast.

### Climate

The line of perpetual snow is usually about 16,400 feet, though in some situations only 15,400 feet, above sea-level. Plains stretching between the mountain-peaks are often exceedingly cold; the climate of the numerous deep valleys, however, is tropical, and that of the intermediate slopes and valleys temperate. The rarefied atmosphere of the cooler uplands is healthful in certain respects only. (See the article LATIN AMERICA—*Climate*, pages 8, 9). Tropical conditions prevail in the montaña and coast region, but with a marked difference: the former is exceedingly rainy, and the latter, from November to April, has no rainfall whatever.

By a law of 22 Dec. 1916 the government made provision for a vigorous campaign against malarial conditions throughout the country. The work involves the treatment of patients, the protection of people in regions where the disease is endemic, the destruction of insects transmitting germs, and the drainage or special treatment of swampy lands. In connection with the campaign quinine is admitted free of all duties.

## HISTORY

Before the coming of the Spaniards, the sierra was held by Indians of the Inca tribe whose chief town was Cuzco. Chiefs of that tribe, "Incas" *par excellence*, had extended their conquests along the heights of the Andes, northward somewhat beyond Quito

and southward into the Titicaca basin. Unquestionably, also, they held in subjection tribes of the Pacific littoral and montaña regions; their commanding position, relatively efficient military organization, and use of the llama on long marches, enabling them to levy, even in remote communities, a tribute of "sun virgins" (female captives, dedicated to the service of the national god), and of the precious metals, which were largely used, never as money, but for the interior decoration of temples and for domestic utensils. As for the social organization of the Incas, and the impressive accounts of the so-called dynasty which have been commonly accepted hitherto, it must be admitted that recent scientific researches conducted in the sierra have put the whole subject in doubt. It is quite certain, for example, that the "empire" was ruled, not by a succession of enlightened administrators, but by war-chiefs, whose office was not hereditary; that extravagant notions have prevailed in regard to the defenses of the capital, the system of roads, and the irrigation works; and that a reliable chronology begins with the Spanish conquest. On 14 Nov. 1524 Pizarro first sailed from the Isthmus of Panama. About three years later the Inca Huayna Ccapac died, and a civil war broke out between north and south, Atahualpa commanding in the former section, Huascar in the latter. This disruption proved to be the Spaniards' opportunity. In January 1530 Pizarro again set sail from the Isthmus, and, after long delays, reached the sierra. On 16 Nov. 1532 the Spanish force seized and imprisoned Atahualpa. Xeres, Pizarro's secretary, writes: "Atabaliba (Atahualpa) feared that the Spaniards would kill him, so he told the governor that he would give his captors a great quantity of gold and silver. The governor asked him: 'How much can you give, and in what time?' Atabaliba said: 'I will give gold enough to fill a room 22 feet long and 17 wide, up to a white line which is half way up the wall.' The height would be that of a man's stature and a half. He said that, up to that mark, he would fill the room with different kinds of golden vessels, such as jars, pots, vases, besides lumps and other pieces. As for silver, he said he would fill the whole chamber with it twice over. He undertook to do this in two months." February 1533 Almagro arrived; 3 May 1533 the gold and silver were melted; 29 Aug. 1533 Atahualpa was garroted. On 6 Jan. 1535 the site of Lima was chosen; the city founded 12 days later. On 8 April 1537 Almagro seized Cuzco; 8 July 1538 he was condemned to death. Two years afterward, Gonzalo Pizarro started to explore the montaña. Sunday, 26 June 1541, Francisco Pizarro was assassinated. June 1542 Gonzalo Pizarro returned to

Quito. From 28 Oct. 1745 to February 1746, earthquakes occurred destroying Callao; 1780 to July 1783, Tupac Amaru, descendant of the Incas, rebelled; 3 Aug. 1814, the cry of independence was raised at Cuzco; September 1820, the Argentine general, San Martín, landed on the coast of Peru, Lord Cochrane and English officers accompanying him from Chile (q.v.); 28 July 1821, independence was proclaimed at Lima, after San Martín's entrance; 20 Sept. 1822, San Martín resigned protectorate; 1 Sept. 1823, Bolívar arrived at Lima; 6 Aug. and 9 Dec. 1824 the Spanish forces were defeated at battles of Junin and Ayacucho; 24 Aug. 1827, General Lamar elected to presidency; 16 Oct. 1856 the existing constitution was framed, and 25 Nov. 1860 revised; 2 May 1866 a Spanish fleet, sent to enforce alleged claims, was repulsed at Callao; 13 Aug. 1868 and 9 May 1877 destructive earthquakes occurred; 5 April 1879 Chile declared war against Peru; 8 Oct. 1879 the *Huascar* was captured by Chilean ironclads; November 1879 battle of Tarapacá, the Peruvian province of that name falling into the hands of the Chileans; 26 May 1880, battle of Tacna; 7 June 1880, Chileans captured the port of Arica; the Peruvian army was nearly annihilated; Chilean ships desolated the whole coast; 13 and 15 Jan. 1881, Chilean invading force defeated Peruvians at Chorrillos and Miraflores; 17 Jan. 1881, Chileans entered Lima; 20 Oct. 1883, treaty of Ancón was signed (ratified in May 1884), ceding Tarapacá to Chile, and providing for the occupation of Tacna and Arica by the Chileans for 10 years at the end of which period the inhabitants should determine by vote whether they would belong to Chile or Peru. But it was also provided that the nation preferred by the voters should pay $10,000,000 to the other nation; and when the time arrived for such a referendum plebiscite, Peru was unable to give attention to the matter and unprepared to pay the stipulated sum, in the event of a favorable decision. On 25 Nov. 1901 an agreement was made with Bolivia for the settlement of boundary disputes by arbitration. In September 1903 Manuel Cándamo was inaugurated president but he died in May 1904 and was succeeded temporarily by Señor Calderon, the second vice-president, as the first vice-president had also died. Elections were immediately held and José Pardo was chosen president and installed in September 1904. On 24 Sept. 1908 occurred the inauguration of Augusto B. Leguía as president. On 29 May 1909 President Leguía and several members of the cabinet were captured by a band of desperate men in an attempt to overthrow the government. After being paraded through the streets of Lima

and threatened with death if he did not resign, Leguía was rescued by the loyal troops and the conspirators captured or put to flight.

In 1912 the Chilean occupation or tenancy of Tacna and Arica was confirmed, in perpetuity, by agreement between the two countries. On 6 Dec. 1914 a severe earthquake in the department of Ayacucho killed a number of people and destroyed many buildings. In 1915 important archæological studies were made by an expedition under the auspices of Yale University and the National Geographic Society (of Washington); the excavation of the large ruins of Patallacta at Qquente was carried on with care, although seriously hampered by unfriendly action on the part of the Historical Institute of Cuzco; and, before the reconnaissance work was stopped by the government, addition was made to the new learning in regard to the region of the Machu Pichu ruins. During that year Provisional President Benavides, "as a reply to the charges that he desired to establish a dictatorship," issued a call for an election; his candidate was defeated; Dr. José Pardo, coalition candidate, was elected; and Benavides was accused, in charges presented to Congress, "of abuse of power, the assassination of General Varela, treason, rebellion against the government of Billinghurst, securing loans without previous consent of Congress and amassing wealth while in office." Congress ordered an investigation. The same body approved, in October, a constitutional amendment guaranteeing religious liberty; but President Pardo refused either to sanction or to veto that progressive measure (see section Education and Religion), and upon its promulgation by Congress a demonstration of hostility was made in the streets of the capital. (See section Money, Finance and Banking, p. 387, for other phases of the country's history.)

## GOVERNMENT

While in its main features the government resembles that of the United States, the differences are important. Thus, Congress consists of a Senate and House of Representatives, but Senators, as well as deputies, are chosen by direct popular vote, and the number of Senators representing each department in the national legislature is not invariably two, but from one to four, the larger number being conceded to departments which contain more than eight provinces. Again, the president is chosen by direct popular vote for four years, but he cannot serve for two successive terms;

and, to provide for such contingencies as the death or disability of the chief executive, two vice-presidents are elected in the same manner. Official acts of the president require for their validity the signature of a member of his cabinet (compare PARAGUAY), the cabinet ministers being the officials in charge of the departments of Foreign Affairs, War and Navy, Government and Police, Justice and Public Instruction, Treasury and Commerce, Public Works and Promotion. The choice of supreme court judges depends upon Congress, and the executive selects judges of the lower courts from lists of the candidates proposed by the higher tribunals. Mr. Vivian (see *Bibliography*) observes that the government is of the centralized, not federal, type. The existing constitution, promulgated in 1856, was revised in 1860.

### Diplomatic and Consular Service

The United States maintains at Lima a minister; at Callao a consul-general and vice and deputy consul-general; at Iquitos a consul; at Cerro de Pasco, Paita, Mollendo, and Salaverry, consular agents. Great Britain's chief representative in Peru unites the functions of envoy, minister, and consul-general; at Callao and at Iquitos there are British consuls, with vice-consuls at Lima, Arequipa and Mollendo, and Callao, and a consular agent at Cerro de Pasco. Peru maintains a minister at Washington and a consul-general at New York; consuls at Los Angeles, San Francisco, Honolulu, New Orleans, Baltimore, Boston, St. Louis, Toledo, Portland (Oregon), Manila, Port Townsend and Tacoma; honorary consuls at Chicago, Philadelphia and San Juan (Porto Rico); vice-consuls at San Diego and Norfolk. Peruvian representatives in Great Britain are the envoy and minister, chargé d'affaires, attachés, military attaché, and consul-general at London; consular representatives at Belfast, Cardiff, Dublin, Glasgow, Dundee, Liverpool, Queenstown and Southampton.

## EDUCATION AND RELIGION

The most ancient university in the New World, that of San Marcos at Lima, was founded in 1551; the university at Cuzco was founded in 1598. There are also universities at Trujillo and Arequipa. Like the neighboring republic of Ecuador, Peru has been honored by the achievements of her historians and geographers, the writers on constitutional and legal subjects; poets and

dramatists and such naturalists as Rivero and Pinerola. Noteworthy are the national agricultural school, the school of mines, and school of arts and crafts at Lima. Instruction in the elementary branches is free, and the law provides that it shall be compulsory. In 1916 the number of public schools was given as about 2,250, and the total attendance as nearly 175,000 pupils. High schools are found in the departmental capitals. The *Report of the Commissioner of Education* for the year ending 30 June 1915 (Washington 1915) contains statements to the effect that the importance of enforcing the law making elementary instruction obligatory, and the need of modernizing the general scheme of public instruction, have been appreciated in Peru, and that educational surveys are being made as a basis for improvement and progress. (For school of mines, see MINERAL RESOURCES.) The bishopric of Cuzco was founded in 1537, and the see of Lima in 1541. The provisions of the constitution and laws in regard to worship are, naturally, comparable with those of Ecuador; recognition has been accorded to Roman Catholicism exclusively until recent years.

## INDUSTRY AND COMMERCE

### Agriculture

The sugar plantations give employment to 25,000 persons, and the total production is about 150,000 tons annually. This is an irrigation crop, as are also cotton and rice. Cotton is being cultivated on quite a large scale, that variety which is preferred for export growing in the department of Piurá. In the two coast departments of Lambayeque and La Libertad rice is extensively grown, climate and other conditions being very favorable for this crop. About 60,000 acres in this region are cultivated in rice, yielding on an average 1,500 pounds of rice per acre. Exports of rice amounted to $305,480 in 1914. Maize thrives in all parts of Peru below the frigid table-lands. Cacao and coffee are both of excellent quality. The plantations of rubber are on the eastern slopes of the Andes, and in the region bordering on the large rivers of the department of Loreto. Other agricultural products are: Manioc, tobacco, wine, wax, honey, etc. In the river valleys of the coast region many kinds of fruit are grown with the aid of irrigation, the best of these being chirimayas, grapes, oranges, melons and pomegranates. By the law promulgated 23 Jan. 1917 loans are permitted to farmers and stock raisers on agricultural

implements, sawmills, live stock, meat and dairy products, fruits, growing or harvested, timber and lumber. The annual interest on such loans shall not be more than 4 per cent greater than the usual banking rate in the community.

## IMPORTS AND EXPORTS

The detailed statistics covering the foreign trade of Peru during 1915, published by the director-general of customs, place the total value of imports and exports at $83,794,400 in comparison with $66,163,572 in 1914 and $74,040,648 in 1913. The imports during 1915 were valued at $15,064,470 and exports at $68,729,930. The value of the Republic's commerce in recent years has been as follows:

| YEAR | Imports | Exports | YEAR | Imports | Exports |
|---|---|---|---|---|---|
| 911 | $26,465,224 | $36,119,264 | 1914 | $23,495,122 | $42,668,450 |
| 912 | 25,015,460 | 45,871,504 | 1915 | 15,064,470 | 68,729,930 |
| 913 | 29,631,038 | 44,409,610 | 1916 (first 6 months | 8,701,420 | 41,510,388 |

The following table gives a list of the principal articles imported into Peru during 1915 with their value:

| Articles | 1915 | Articles | 1915 |
|---|---|---|---|
| gricultural implements, etc | $289,660 | Musical instruments | $24,547 |
| mmunition | 82,715 | Oakum, packing | 16,546 |
| arley | 27,720 | Oils | 352,807 |
| everages | 254,047 | Opium | 34,252 |
| oats | 26,079 | Paints and varnishes | 66,805 |
| ooks, blank and printed | 45,380 | Paper | 420,209 |
| rooms, fine | 23,150 | Paraffin and stearin | 190,699 |
| uttons | 11,242 | Perfumery | 116,518 |
| akes and crackers | 19,115 | Pickles | 47,802 |
| andles | 41,434 | Potatoes and other vegetables | 8,178 |
| andles | 84,777 | Quinine and compounds of | 28,829 |
| oal | 541,758 | Rice, hulled | 603,700 |
| ement, Portland | 234,414 | Rifles, sporting | 11,502 |
| hinaware | 46,730 | Rubber manufactures | 53,869 |
| airy products | 245,282 | Sardines, canned | 19,023 |
| isinfectants | 12,675 | Scientific instruments | 14,301 |
| yes | 11,132 | Shoe polish | 28,843 |
| lectrical apparatus | 105,130 | Silver, bars and coined | 803,393 |
| xplosives, dynamite | 363,080 | Soap, laundry and toilet | 71,012 |
| ruits, fresh | 26,142 | Soda, caustic and cooking | 43,209 |
| our, wheat, etc | 87,928 | Spirits | 10,214 |
| ruits, canned | 16,624 | Straw, manera, for hats | 21,582 |
| urniture | 65,449 | Sugar, refined | 32,496 |
| lass, bottles, mirrors, window, etc | 139,982 | Tan bark | 13,553 |
| old, coined | 12,312 | Tea | 102,080 |
| uano and nitrates | 160,332 | Textiles | 2,274,839 |
| ats | 143,935 | Tinware | 116,830 |
| orses | 12,711 | Tobacco, cigarettes | 105,506 |
| on and steel manufactures | 1,267,038 | Toys and games | 17,315 |
| ewelry | 20,629 | Vehicles, etc | 174,470 |
| eather | 69,410 | Watches | 21,388 |
| eather goods, shoes | 136,040 | Waters, aerated | 23,364 |
| ime and lime products | 22,098 | Wheat | 1,130,630 |
| umber | 885,745 | All other articles | 1,997,858 |
| ewspapers | 12,552 | | |
| achinery, etc | 1,014,317 | Total | $15,064,470 |
| eats and meat products | 423,304 | | |
| edicines, patent | 202,242 | | |

The large increase in the exports, from a value of $42,668,450 in 1914 to $68,729,930 in 1915, was due largely to the greater shipments of copper, silver, and gold in bars; crude petroleum and kerosene; wool; sugar; rubber; rice, and other articles. The following table shows the principal exports, with their value, during 1915:

| Articles | 1915 | Articles | 1915 |
|---|---|---|---|
| Alfalfa seed | $10,550 | Tungsten | $[illegible] |
| Beans | 53,016 | Vanadium | [illegible] |
| Beans, lima | 79,129 | Other minerals and ores | [illegible] |
| Cocaine | 51,411 | Guano | [illegible] |
| Coca leaves | 146,769 | Kerosene | [illegible] |
| Cocoa beans | 40,538 | Petroleum, crude | [illegible] |
| Coffee | 189,696 | Beeswax | [illegible] |
| Cotton | 6,163,791 | Butter | [illegible] |
| Cotton seed | 455,125 | Cattle | [illegible] |
| Cottonseed cake and oil | 484,818 | Cochineal | [illegible] |
| Cotton waste | 14,356 | Honey | [illegible] |
| Fruits, fresh and dried | 41,028 | Mutton, dried | [illegible] |
| Hats, "Panama" | 244,425 | Parchment | [illegible] |
| Ivory nuts | 179,807 | Plumes, heron | [illegible] |
| Oil, impure | 7,232 | Skins | [illegible] |
| Orinoto | 39,048 | Tallow | [illegible] |
| Pepper, red | 64,824 | Wool alpaca | [illegible] |
| Peas | 17,621 | llama | [illegible] |
| Potatoes | 30,484 | sheep | [illegible] |
| Rice | 788,061 | vicuña | [illegible] |
| Rubber | 2,937,891 | All other articles | [illegible] |
| Shortings, unbleached | 43,477 | | |
| Sugar | 27,107,296 | Total | [illegible] |
| Gold | 916,036 | | |
| Silver | 677,558 | | |

## Trade with the United States

An encouraging feature of the trade of the United States with Peru during 1915 was the large increase in sales of American goods, which in value not only lead all other countries but amounted to 48 per cent of the total imports of the Republic, in comparison with 32 per cent during 1914 and 28 per cent in 1913. The United States imported during 1915, 45 per cent of the Peruvian exports, in comparison with 34 per cent during 1914 and 33 per cent in 1913.

In 1915 the United States furnished $7,242,490 of Peruvian imports, the United Kingdom, $3,224,280; Hongkong, $885,445; Italy, $768,087; and Chile, $469,211. Of the exports in the same year the United States took $31,098,312; the United Kingdom, $17,624,634; Chile, $14,870,430; Spain, $1,541,863; and Bolivia, $912,403.

The chief manufacturing industries are those connected with the mines and oil-wells; with the agricultural and pastoral products, especially cotton, sugar, wine-grapes, cocoa, goat and kid skins, and wool; and finally with the native arts and crafts — the ponchos, the pottery, straw hats, etc., made by the Indians. A match factory in Lima, drawing its supplies from the native woods, now competes successfully with foreign manufacturers.

### Character of the Tariff

The author of *Tariff Systems of South American Countries* (see *Bibliography*) writes that the customs tariff, adopted in 1910, consists chiefly of specific rates of duty. In addition to the prescribed rates there is a general surtax of eight per cent of the ordinary duties, and on imports at certain ports a surtax of two per cent for the municipalities. Rates of duty are now uniform throughout the country, including the river port Iquitos; and, with the exception of concessions to Bolivia on strictly frontier traffic, imports from all countries are subject to the same rates of duty. Customs procedure is less complicated than in some of the Latin American countries: the charges are clearly defined; regulations clearly expressed and, as a rule, liberally construed; the employment of customs brokers is, therefore, not obligatory. "Most importing houses conduct all customs operations through one of their own employees." The Peruvian practice in regard to duties on exports underwent a change when the need for additional revenue became pressing after the outbreak of war in Europe, export duties being imposed on several additional products.

## MONEY, FINANCE AND BANKING

The monetary system (gold standard) has as its unit the libra, divided into 10 soles of 100 centavos. It contains 7.32238 grammes of fine gold; its par value in terms of the currency of the United States is $4.8665; it has the same value as the English pound; British gold is legal tender and circulates freely in Peru. Mr. Cosby, in *Latin American Monetary Systems and Exchange Conditions* (New York 1915), writes that "under normal conditions no premium exists on gold, since that is the standard currency of Peru. A premium is now exacted for gold, however." This was occasioned by exchange conditions and an issue of banknotes under governmental authorization, to the extent of $12,500,000 approximately. But "the past experience of Peru with notes or paper currency had been disastrous, and at the first intimation of a note issue the gold in circulation went into hiding. The export of gold was prohibited, and this, together with a marked decrease in the export of raw products (copper, cotton, sugar, etc.), caused a notable scarcity of drafts on Europe and the United States"—as a result of which a premium of from seven to 10 per cent was demanded for foreign drafts.

The Delegation of Peru to the First Pan American Financial Conference called attention to the increase in national revenue during the 17 years from 1896 (when the amount was $5,643,570) to 1913 (when the amount was $17,089,870): somewhat more, therefore, than 300 per cent. As chief sources of revenue we mention the Pacific coast customhouses, tobacco monopoly, tax on spirits, and salt monopoly. There was a marked falling off in the public revenues after the exporting and importing nations of Europe became involved in war; and this, in so far as it had not been met by a proportional reduction in the government's expenses, led directly to a situation fairly obliging the government to adopt plans for the protection of banks and private debtors (this includes the moratorium) and for a budget of reasonable proportions; it led also to that substitution of paper for metallic currency mentioned in the foregoing paragraph. The collection of taxes, with a single exception to be noted, is delegated to a joint-stock company called the National Tax Collecting Company (capital $1,500,000) which charges one per cent on the revenue from general taxes, six per cent for collecting license fees in the capital and at Callao, and 10 per cent for the administration of the piers at Tumbes, Supe, and Chala. The exceptional collecting agency just referred to is the National Salt Company, another joint-stock and fiscal organization: to it the government delegates control of all the salt mines and deposits of salt in Peru. The distinguished authors of the memorandum we cite said that the national debt was $28,932,286, which shows, according to the accepted estimate of the number of inhabitants, a per capita debt of only $6.42 or $6.43. The banks mentioned were the Banco del Perú y Londres (paid-up capital $2,500,000 and reserve fund $1,500,000); Banco Internacional (authorized capital $2,500,000, paid-up capital $500,000, and reserve fund $125,000); Banco Popular (authorized capital $1,000,000, paid-up capital $750,000, cash reserve fund $310,000); Banco Italiano (paid-up capital $1,000,000, reserve fund $446,650, sinking fund $75,000); Banco Alemán Transatlantico (a branch, for transactions in Peru, $1,000,000). The Commercial Code of Peru prescribes for foreign associations wishing to establish banks in this country (paragraph 11, article 21 and article 185) that they "shall produce and enter in the register a certificate issued by the Peruvian consul that they are constituted and authorized in accordance with the laws of the respective countries, in addition to their constitution and the documents required for Peruvian associations. . . . All banks must have in their vaults at least one-fourth in sterling of the amount of their indebt-

edness to the public." Banks must pay, "for inscription," or as initiation-fee, from one-fourth to one-half per thousand, calculated on the amount of the declared capital, and five per cent on the net earnings. The banking institutions of special and distinctive characteristics, to be added to the foregoing list, are the Peruvian clearing house (Banco de Depósitos y Consignaciones, capital $500,000 subscribed by Peruvian banks), W. R. Grace & Co., and the Lima Savings Bank (Caja de Ahorros, capital $100,000 and over $1,000,000 in deposits). The budget for 1916 estimated receipts at $14,236,375 and expenditures at $14,867,355, approximately.

## NAVIGATION AND RAILWAYS

The Peruvian ports on the Marañon and Huallaga rivers in the east are connected by steamers with those of Brazil and Iquitos, department of Loreto, has the advantage of regular service by direct freight and passenger steamers from New York and Europe. Other river ports are Yurimaguas on the Huallaga, and Contamana on the Ucayali. The chief Pacific ports are visited by vessels of the Chilean and Pacific Steam Navigation companies. The railroads, 1,718 miles in extent (1,300 miles standard gauge, including 30 miles of interurban electric lines, and the rest narrow gauge) are in large part owned by the government, and 65 per cent (1,120 miles) are operated, under arrangements of long standing, by the Peruvian Corporation (Ltd.), which owns and operates a line of steamers on Lake Titicaca, the railroad connecting that lake with La Paz, etc. The Central Railway climbs from sea-level at Callao to the altitude 15,666 feet on its way to Oroya, over 140 miles of track, and on a short branch line attains 15,865 feet. Its Huancayo extension has 78 miles of track. From Oroya a railway extends to Cerro de Pasco (see section *Mineral Resources*). The Southern Railway climbs from Mollendo on the Pacific coast to Arequipa (altitude about 7,600 feet) and thence up to 14,666 feet at Crucero Alto, and so to Puno on Lake Titicaca and, by the Juliaca and Sicuani branch, to Cuzco. The Pan American Union handbook *Chile* contains the statement that, beside the Central and Southern, the Peruvian Corporation also operates six other railroads in Peru, as follows: Paitta to Piura Railway; the Trujillo Railway; the Pacasmayo and Guadalupe Railway; the Chimbote, the Pisco to Ica, and the Ilo to Moquegua railways. These, and other short lines, serve

portions of the littoral. In 1917 the government authorized the Departmental Board of Ancachs to construct an automobile road between the port of Casma and the city of Huaraz. The Department is authorized to contract a loan of 40,000 Peruvian pounds (pound = $4.8665), with interest and amortization not to exceed 10 per cent annually. The loan will be guaranteed by a small tax on freight transported over the road and by a yearly appropriation of £2,000 in the departmental budget. The government has adopted recently a scheme of road building to apply to all parts of the republic. Roads are classified in four groups —national, departmental, provincial and district, according to the authority in charge of construction. For the national roads a staff of road engineers is organized and provided for in the annual budget. Roads from Andamayo to Ayo, San Miguel to Mt. Pucamarca, and from La Mergerada to Luricocha are already under construction.

## POSTAL, TELEGRAPH AND TELEPHONE SYSTEMS

There are about 800 post offices and 340 telegraph offices; and the wireless-telegraph system has stations at Iquitos, Requena, Putamayo, Orellano, Masisea, Puerto Bermúdez and San Cristóbal, with provisional stations at Ilo, Pisco and Chala. The telephone systems have more than 11,000 miles of wire.

## MEASURES AND WEIGHTS

The Peruvian *libra*=1.0143 pounds avoird.; *quintal*=101.44 pounds; *arroba* = 25.36 pounds, or (liquid measure) 6.7 gallons; *vara* = 0.927 yard; *tongo* = 145.2265 square yards; *fanegada* = 5.142 acres. The metric system was established by law in 1860, but the older terms are still heard.

## ARMY AND NAVY

Peru has a small but efficient army (about 4,030 men) to which large additions can be made in time of war, as every male citizen is liable to military service from his 19th to his 50th year. The navy in 1915 comprised 14 vessels. There is a civil-military school of aviation at Lima.

## Population

Though the Quichua language is still spoken by a majority of the people of Peru (of whom 57.6 per cent are classed as Indians, and 24.8 per cent mestizos), this linguistic unity by no means implies uniform characteristics; on the contrary, it is necessary to regard the present Indian population as descendants of many different native races of varying degrees of natural intelligence and physical vigor, the common tongue having been imposed by the conquering Inca tribe. Some of the Indians of to-day are found to be progressive — at least sufficiently so to encourage the hope that they may, little by little, become useful citizens in a civilized country; but other descendants of the aborigines seem utterly incapable and irresponsible. The negro and Asiatic elements are small; the white element 13.8 per cent. The number of inhabitants in 1876 was found to be 2,660,881. As estimated by the Pan American Union there were about 4,500,000 inhabitants in 1917.

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## POLITICAL DIVISIONS AND CITIES

The Republic of Peru is divided politically into 19 Departments and three Provinces, and these Departments in turn are subdivided into 104 provinces. The Departments and three national Provinces, with their areas and populations, capitals and populations, are as follows:

| DEPARTMENTS | Area (square miles) | Population | Capital | Population |
|---|---|---|---|---|
| Amazonas | 13,943 | 70,676 | Chachapoyas | 4,000 |
| Ancachs | 16,562 | 428,703 | Huaraz | 17,000 |
| Apurimac | 8,187 | 177,487 | Abancay | 4,000 |
| Arequipa | 21,947 | 229,037 | Arequipa | 35,000 |
| Ayacucho | 18,185 | 302,469 | Ayacucho | 14,000 |
| Cajamarca | 12,538 | 442,412 | Cajamarca | 12,000 |
| Cuzco | 156,270 | 438,646 | Cuzco | 14,000 |
| Huancavelica | 9,251 | 225,796 | Huancavelica | 4,000 |
| Huanuco | 14,024 | 145,309 | Huanuco | 7,500 |
| Ica | 8,718 | 90,962 | Ica | 10,000 |
| Junin | 23,847 | 394,193 | Cerro de Pasco | 11,000 |
| Lambayeque | 4,614 | 124,021 | Chiclayo | 13,000 |
| Libertad | 10,206 | 250,931 | Trujillo | 14,000 |
| Lima | 13,310 | 298,109 | Lima | 142,500 |
| Loreto | 288,456 | 100,596 | Iquitos | 12,000 |
| Madre de Dios | 24,747 | 16,000 | Maldonado | 4,000 |
| Piura | 16,825 | 213,909 | Piura | 14,000 |
| Puno | 41,198 | 537,345 | Puno | 8,000 |
| Tacna | 12,580 | 45,593 | Tacna | 14,000 |
| PROVINCES | | | | |
| Callao | 14 | 48,118 | Callao | 34,346 |
| Moquegua | 5,549 | 42,694 | Moquegua | 5,000 |
| Tumbes | 1,980 | 8,602 | Tumbes | ... |
| Total | 722,461 | 4,620,201 | | |

### Lima

The capital of Peru lies in a fertile plain, not very elevated but at the westernmost spur of the Andes, called the Hill of San Cristóbal. It is situated on the river Rimac only eight miles from its port Callao. Historically Lima is of decided interest because it was founded by Pizarro himself in 1535, and designed after his own ideas. The city is in the dry zone, but has a pleasant climate, seldom disturbed by rain, although in the winter months there is abundant fog and moisture. It contains many historic monuments and buildings. Like all other Peruvian cities, it is subject to earthquakes of more or less violence, and this affects the style of construction and the demand for building materials. Its public works are good; the city is lighted by electricity and has an electric street railway system. The water supply and sewage systems are excellent. There are manufactories of cotton and woolen goods, furniture, iron and copper articles, pottery and dyestuffs. There are also important manufactures of textiles, sugar, cocoa, liquors, cotton-seed oil and flour carried on in the neighborhood. It is connected with Callao by two steam and two electric railway lines. It has rail connection with Cerro de Pasco and Jauja in the interior and with Huaura and Salinas on the coast to the north. The city is the official residence of the United States minister to Peru.

### Callao

The chief seaport of Peru and the capital of a small Province of the same name is situated on Callao Bay, 8 miles west of Lima. The city is divided into two sections, the older has narrow, crooked streets, while the newer portion is well laid out with broad streets crossing each other at right angles. The climate is tem-

perate but the city is unsanitary and fever-stricken. Vessels from all parts of the world are seen in its harbor, which is provided with a mole and good wharves, capable of admitting the largest ships. The island of San Lorenzo forms a natural breakwater. The harbor is fortified and possesses splendid ship-repairing facilities, which include a floating dock, 300 feet in length. Railway lines approach the wharves. Callao has manufactories of refined sugar, lumber and iron, but is more important as a commercial centre. It exports minerals, bone, sugar, hides, wool, cotton, and cocoa, and imports mostly manufactured articles and also beer and coal. The opening of the Panama Canal has added to its importance. Of the total tonnage entering and clearing from Peruvian ports Callao has about 33 per cent. Its foreign commerce exceeds $20,000,000 a year. Iron docks are being installed here and also at Paita to be used exclusively for the loading and unloading of oil consumed by incoming and outgoing steamers. It is the seat of a United States consul-general.

## Cuzco

The capital of the Department of the same name and the ancient capital of the Incas is situated 360 miles southeast of Lima, on a section of the Andes, 11,000 feet above sea level. It is connected by rail with the port of Mollendo, 300 miles to the south. It is regularly built and has many handsome buildings. The remains of the Incas are still intact and are of great interest to the traveler and antiquarian. The surrounding district is a fertile agricultural region and the city does an import trade in the regional products and has also manufactures of cotton and woolen goods, furniture, sugar, leather and embroidery.

## Other Cities

Puno, capital of the Department of the same name, is situated on the west shore of Lake Titicaca, 206 miles northeast of Mollendo, with which it is connected by the Southern Railway of Peru. Gold, silver, and copper mines are operated in the vicinity. The city has an extensive transit trade between Bolivia and other countries. Arequipa, also on the Southern Railway, 106 miles north of Mollendo is of great interest to the traveler. Its altitude, 7,560 feet, gives it a delightful climate, and offers a healthful resting place for the trip to Bolivia and the highlands. Here is situated the Harvard Observatory on Mount Misti. Ayacucho, 170 miles east of Lima, is celebrated as the battle ground of the last struggle of the Spanish Army against the allied Peruvians and Colombians under General Sucre. Separated from the rest of Peru as if in a foreign country is the Amazon city of Iquitos, which serves the rubber district. It is 2,500 miles from the Atlantic, but only 348 feet above sea level. The mail and steamer route is by the Atlantic, as ocean steamers can come all the way to Iquitos. Nearly all goods used are imported and the cost of living is very high. The Bank of London and Peru has a branch here. Mollendo, the second port of the Republic is 450 miles southeast of Callao. It has a small population, but a heavy tonnage of in and out bound cargo passes through it. It has a breakwater, but no harbor. The principal Pacific ports, besides Callao and Mollendo, are Eten, Pacasmayo, Paito, and Chimbote, the last two of which have good sheltered harbors. The numerous other ports are of minor importance, and vessels that call anchor in the open roadstead. Ica, Pisco, and Chincha Alta have a large trade in the products of their localities. New water supply systems are being installed in these cities by the National government, which finances the project by an additional duty of 2 per cent levied on all merchandise imported through the custom house of Pisco.

# URUGUAY

By Marion Wilcox

## NATIONAL BOUNDARIES, GEOGRAPHY, ETC.

THE República Oriental del Uruguay, smallest of the independent countries of South America, is bounded on the north and northeast by Brazil, on the east by the Atlantic Ocean, on the southeast and south by the Atlantic Ocean and the estuary of the Rio de la Plata, and on the west by the Argentine Republic. Its territory extends from lat. 30° S. nearly to lat. 35° S., and the location of its principal city (or, more precisely, of the cathedral at Montevideo) is given as lat. 34° 54′ 33″ S., and long. 58° 32′ 32″ W. Total area of the republic, 72,210 square miles (about 7,210 square miles more than the total area of New England). (For political divisions see Political Divisions and Cities, p. 409.)

### Topography

The most elevated point in the republic is somewhat less than 2,000 feet above sea-level; the so-called mountains are, therefore, to be regarded rather as hills, which sometimes form chains — such as the Cuchilla Grande, which extends across the country, the Santa Ana range, between Brazil and Uruguay, the Cuchilla de Belén, and Cuchilla de Haedo,— but elsewhere give to the region, especially the northern districts, an irregular rolling or undulating surface. Forests or groves cover the hills in the north and generally extend along the banks of the numerous small streams (*arroyos*) and the larger water courses. The soil in the southwest is of uncommon fertility, being composed of detritus of great depth

and rich alluvial deposits; the southeast and south have grassy slopes and good pasture lands, the hills here forming a bold line along the shore of the Rio de la Plata, but not extending to the Atlantic coast. Important rivers, beside the great southern estuary, are: the Uruguay, which rises in the Brazilian state of Santa Catharina, and has a course of about 1,000 miles; and the Rio Negro, which also rises in Brazil, and empties into the Uruguay after flowing toward the southwest for about 350 miles. The latter passes through the centre of the republic; the former marks the boundary with Argentina; both are navigable for vessels of light draught (Rio Negro 55 miles, Uruguay 200 miles), and even large steamships navigate the Uruguay up to Paysandú. There are several shallow lakes, or *lagunas*, near the eastern coast. The largest of these, Lake Merín (or Mirim), about 108 miles long by 14 miles wide, partly in Uruguay and partly in Brazil, is only of sufficient depth for navigation by the light-draught steamers that maintain communication between the towns on its shores.

## Climate

The southern part of Uruguay has a remarkably pleasant, temperate and healthful climate, resembling, and in evenness throughout the year outclassing, that of the Riviera of southern France and the northwest of Italy. Extremes of heat and cold are unknown in that part of the country most subject to the climatic influence of the ocean and the great estuary. Naturally, such extremes are more marked in the northern inland regions, where the lowlands in summer are decidedly hot, the thermometer sometimes recording 100° F. The cold season brings frost or snow infrequently to the uplands. Taking the country as a whole, we note as unfavorable phenomena the storm-winds called *pamperos* and hail-storms that too often injure the standing crops. The average annual rainfall is about 37.19 inches; the average annual temperature, 62° F. or 63° F., approximately; the mean temperature of winter about 55° F., and of summer between 72° F. and 73° F.

## Fauna and Flora

The indigenous animal kingdom, although it includes 30 species of mammals, has only a few really notable representatives. "Those of most commercial value are the rhea, or American ostrich, and the fur-seal. Both of these, until recently, were found in large numbers, but, owing to the systematic pursuit of the rhea and the indiscriminate killing of the seal, both were threatened

with extinction, until the government took measures to insure their preservation and increase. One may have some idea of the vast number of ostriches that roamed the plains of Uruguay in 1909 from the fact that, during that year, more than 50,000 pounds of ostrich feathers were exported to the United States and Europe." (Consult Zahm, J. A., *Through South America's Southland*, New York and London 1916). The seals in large numbers live and breed on the islands near the coast, especially the Lobos and Castillos groups. More than three-fifths of the seals at these rookeries are of the fur-bearing variety, and the islands are now strictly preserved, no one being permitted to land upon them except the sealers during the killing month. The number annually slaughtered for their oil and skins has ranged between 10,000 and 21,000 or 22,000. The mainland fauna includes the deer, otter, wild hog, carpincho, fox, ounce, wildcat, ant-eater, etc. There are over 500 species of avifauna, including the crane, stork, swan, and wild turkey.

In the work cited above, Dr. Zahm writes that, while traversing the rich, undulating plains of Uruguay, " everywhere, within the field of view, there was a wealth of verdure and bloom that rendered the landscape as exquisite as a picture by a master "— the most conspicuous among flowers being the *flor morala* " which carpets the landscape with glowing bands and patches of richest purple. Go where one will, one finds massed banks of the blazing *flor morala* — flowers that grow in such profusion that they extinguish all competitors. Small wonder, then, is it that Uruguay has been called ' The Purple Land.' " The area of forests is relatively small — only about 1,650,000 acres. Their hard and durable woods are: The ñandubay (which, instead of decaying when buried in the earth, becomes petrified), urunday, lapacho, coronilla, espinello, quebracho, arazá, algarroba, and lignum vitæ. Among the softer woods are the willow and acacia. Native palms abound in the departments of Maldonado, Minas, Paysandú, and in valleys of the central and northern districts; and the poplar, pine, cypress, oak, eucalyptus, cedar, magnolia, and mulberry have been successfully acclimated. Yerba maté is indigenous, and 430 species of medicinal plants have been classified.

### Mineral Resources

The only mines that have been worked continuously for many years are the gold mines at Cuñapirú, in the Department of Rivera, in the northern part of the republic. Work began there in 1862

The ore occurs in quartz veins intersecting dioritic rocks. In that part of Uruguay the mineralized territory is extensive. Another auriferous zone is found near Soldado, in the Department of Minas, where both gold and copper have been extracted from pyritiferous and cupriferous formations. Copper has been found also in the Department of Maldonado. A large iron-manganese deposit, containing about 35 per cent iron and 23 per cent manganese, exists in the Department of Rivera, near the gold mines; and there are other deposits of iron and manganese ore at Carrasco. Talc of excellent quality is mined at Las Conchillas, in the Department of Colonia, near the estuary of La Plata. Along this southern coast, especially in the departments of Colonia and Maldonado, the granite quarries command attention; and in the republic generally the quarrying industry is very important. (Consult Marstrander, R., *Engineering and Mining Journal*, 13 March 1915). Coal and petroleum have been found recently, the former in the departments of Montevideo, Cerro Largo and Santa Lucia.

## HISTORY

On 8 Oct. 1515 Juan Diaz de Solís sailed from Spain; he explored the estuary of the Rio de la Plata, and was slain, with some of his companions, by natives of the Charrua tribe. On 2 Feb. 1520 Magellan sailed from the Rio de la Plata, after having explored to a limited extent the Paraná and Uruguay rivers in his search for a waterway across Terra Firma. On 1 April 1526 Sebastian Cabot set out from Seville; he ascended the Paraná to the great falls and the Paraguay to the mouth of the Bermejo. In 1527 Cabot ordered the construction of a fort in the country east of the Uruguay River. The opposition of the natives to the Spanish settlements was fierce and, during a century, successful: in 1603 a veteran Spanish force was routed in a pitched battle by the Charruas. In 1624 the oldest of the towns which now exist in Uruguay was founded on Rio Negro. The so-called "Banda Oriental" (that is to say, the region east of the Uruguay River) was the subject of contention between Portugal and Spain. In 1680 the Portuguese colonists of Brazil founded Sacramento (now Colonia), thus confronting the Spaniards at Buenos Aires. In 1723 the Portuguese fortified the Bay of Montevideo, but surrendered to the Spaniards in the following year, and families from Buenos Aires established themselves at Montevideo in 1726. In

1735–37 Colonia was besieged by the Spaniards. In 1761 it capitulated, but was restored to Portugal by the Treaty of Paris, 1763. This did not put an end to Spanish colonization there; on the contrary, immigration from the north of Spain and from Spanish settlements across the river continued throughout the 18th century. On 26 April and 28 May 1811 José Artigas, leader of the revolutionary party in the Banda Oriental, routed the Spanish forces; a confederation of the settlements east of the great river was formed, with Artigas as Protector. But the Portuguese captured Montevideo and Maldonado, and in 1822 the region in dispute was organized as the Cisplatine Province of Brazil. Artigas took refuge in Paraguay, where he died; but his gallant, patriotic efforts had not been wasted. Other refugees, who had gone to Buenos Aires, returned to start a rebellion in the Cisplatine Province, and on 23 Aug. 1825 issued a declaration of independence. On 24 September and 12 October in the same year the Brazilians were defeated. Then the Argentine government intervened. On 9 February and 30 July 1826 Admiral Brown, commanding the Argentine squadron, failed in his attempts upon the Brazilian fleet; but in February 1827 succeeded in destroying the expedition sent by the Brazilian admiral Lobo into the Uruguay River, and on the 20th of that month the Marquis of Barbacena, commanding Brazilian forces, was defeated at Ituzaningo. On 27 Aug. 1828 the treaty of Montevideo was signed, and the *República Oriental del Uruguay* was created, both Brazil and Argentina renouncing their claims to the country thenceforth to be known as the Eastern Republic of the Uruguay, or simply Uruguay. On 18 July 1830 the constitution was adopted, and a new declaration of independence issued — this time guaranteed by both of the strong neighboring states. But, unfortunately, the political parties — the "Colorados," or Reds, and "Blancos," or Whites — kept alive the traditions of home-bred strife. Thus, in 1842, a political chief secured Argentine support, and laid siege to Montevideo; in 1862 ex-President Flores, "Colorado" leader, made use of Brazilian troops to take Paysandú. On 25 Feb. 1865 Flores with his Brazilian allies took forcible possession of the capital and of the government: quite naturally, therefore, Uruguay was drawn into the coalition formed to resist the dictator of Paraguay, Francisco Lopez. On 17 Aug. 1865 Flores defeated a division of Paraguayans at Yatay; three years later he was assassinated during a "Blanco" rebellion at Montevideo; and ex-President Berro, "who, though not one of the assassins, was arrested in the street with arms in his hands," was executed, with other

rioters. The revolution of 1870–73 ended in a "Colorado" triumph. Of the long series of disturbances which have followed, marking the efforts of "Blancos" to regain power, only one need be mentioned at present — the serious revolution which broke out in March 1903, and continued in 1904, despite the increased military force of the government. Gradually the substantially prosperous republic has outgrown and subordinated lawless political factions; gradually the habitual uprisings against the established government have become less formidable, losing the revolutionary character and appearing rather as mere provincial riots.

In December 1908 a supreme court was established and the judicial system was reorganized. The Montevideo Port Railway was inaugurated on 16 May 1913. Dr. Feliciano Viera was elected on 1 March 1915 as President of Uruguay (and inaugurated two days later) for the term ending 1 March 1919.

## GOVERNMENT

According to the provisions of the constitution of 18 July 1830, the legislative branch of the government is composed of the Senate and the House of Representatives, the former having one member for each of the 19 political divisions called departments and the latter one for each 3,000 inhabitants or fraction exceeding 2,000. Together they compose the general assembly, in which all legislative power is vested, and they meet annually from 15 February to 15 June. The term of a senator is six years, and that of a deputy is three. In many respects the powers of this Congress or General Assembly are similar to those of the Congress of the United States, but they extend much farther in certain directions, namely, to the granting of pardons and amnesties in extraordinary cases and electing the president of the republic (see below). The judicial power is exercised in several courts of first instance (distributed as civil, criminal, for cases affecting the treasury, for commercial cases, police, and departmental), courts of appeal, and the High Court of Justice. The executive power is vested in a president, who is chosen for a term of four years by a majority of the members of the legislature in joint session of its two chambers. The president is ineligible for the term immediately following his tenure of office. He is aided by a cabinet of seven ministers, who, although appointed by him, are responsible to the Congress as well. The law of 3 March 1911, increasing the number of cabinet officers

from five to seven, established the following ministries: Interior and Worship; Foreign Affairs; Finance; Justice and Public Instruction; Industries, Labor and Communications; Public Works; War and Marine.

Reform of the fundamental law is part of the order of the day. A new constitution, to come into force 1 March 1919, was adopted by the two great political parties in 1917. For its basic principles, see pages 150 and 151.

### Diplomatic and Consular Service

The United States is represented in Uruguay by a minister, a consul, and a vice and deputy-consul. All reside at Montevideo. Representatives of Uruguay in the United States have the following residences: The minister, at Washington; a consul-general and a vice-consul, New York City; consuls at San Francisco, Savannah, Chicago, Baltimore, Boston, Philadelphia; vice-consuls at Mobile, Apalachicola, Pensacola, Brunswick (Ga.), New Orleans, Pascagoula, Kansas City, Albany, Galveston, Port Arthur (Tex.), Newport News, Norfolk (Va.), and Seattle. Uruguay also has a consul at San Juan and a vice-consul at Mayaguez, Porto Rico.

## EDUCATION AND RELIGION

This republic is spending about $5,000,000 a year for the maintenance and development of the educational system. Primary education is compulsory, and there has been little or no occasion for inflicting penalties for violations of the law in regard to this matter, since applications for admission to the schools are generally far in excess of the school accommodations. There were in 1917 about 1,060 public schools with an attendance of 100,000 pupils, approximately, the enrollment of pupils having increased 23 per cent between 1908 and 1913 (from 60,863 to 91,746) and at a slower rate between 1913 and 1917. The number of rural schools has nearly doubled since 1906, in which year the sum of $1,000,000 was appropriated for the erection and improvement of school buildings. A recent report of the minister of public instruction contains the statements: Mixed schools have been established " in almost all the rural districts which have a sufficient number of children of both sexes to average an attendance of not less than 30 pupils "; and " Since the permanence of pupils in rural schools never exceeds three years, a simple program has been outlined



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The Plaza and Harbor of Montevideo, Uruguay

which can be developed in that short period, so that when the pupil leaves school he knows how to read and write and to perform the principal arithmetical operations; has some acquaintance with geography, history, and the constitution of the republic; and [this being one of the good traditions of South American schools] has been impressed with notions of the purest morality." All schools in the republic receive frequent visits from inspectors who report directly to the minister of public instruction, and these visits are supplemented by medical inspections. A law of 1907 authorized the establishment of schools for adults, the object being to overcome such illiteracy as had been the natural result of the scarcity of rural schools up to that time. About 50 evening schools have accordingly been established at different centres, and these are attended by 2,000 pupils. The department of Rocha leads in the practical teaching of agriculture, and the same department has also established a higher commercial school. At Montevideo we find: The University, one of the modern organizations of this class, and of high distinction, with faculties of law, science, medicine, mathematics, agriculture, and commerce; secondary schools; special institutions, such as the National Institute for the Deaf and Dumb, established in 1910; and two excellent normal schools, one for boys and the other for girls. State pupils at these normal

schools enjoy a pension of $15 a month as a contribution assisting them to meet the expenses of residence at the capital. The provision made for supplying text-books or pedagogical works gratuitously, under certain conditions, may also be mentioned as another example of wise liberality. The High School of Commerce of Uruguay, in its three-year course — which may be extended to four years — gives instruction in bookkeeping, accounts, geography, political economy, languages (particularly the English language), and stenography.

The cabinet officer known as Minister of the Interior and Worship has authority in relation to the welfare of the clergy of the Apostolic Roman Catholic Church, and under the constitution Roman Catholicism is the state religion; there is, however, complete toleration, and about one-third of the adult population should be classified as Protestants, Liberals, etc.

## AGRICULTURAL AND PASTORAL INDUSTRIES

Although the soil is fertile and the climate favorable to agriculture, less than four per cent of the country is under cultivation (in 1916, about 2,000,000 acres out of a total of more than 45,000,000 acres). Uruguay is still, despite the efforts that have been made by the government to extend the cultivated area, essentially a pastoral country, 41,350,000 acres being devoted to sheep, cattle, etc. The chief agricultural products are: Wheat (average crop 200,000 tons); Indian corn (average crop 200,000 tons); linseed (average crop 27,000 tons); oats (average crop 27,000 tons); wine (average annual production 34,000 tons); tobacco (average crop 1,000 tons).

The staple products of Uruguay are meats, hides, and wool. A live-stock census which was provided for by a government decree in January 1917 shows the different classes of cattle in each department of Uruguay, but in submitting the figures the Director of the Census states that they are to be considered as only partial statistics. The total number of cattle in the whole country is given as 7,942,212, the largest number in any department, 711,224, being in Tacuarembo, and the smallest number, 26,373, in the Department of Montevideo. Each of the departments of Artigas, Cerro Largo, Durazno, and Salto has more than 600,000 cattle; Paysandú and Rio Negro are in the 500,000 class; Florida, Minas, Rivera, Rocha, and Soriano show over 400,000 each, while the remaining depart-

ments have in the neighborhood of 200,000 or 300,000 each. The taking of this cattle census is only one of various measures which the government of Uruguay is adopting for the development of its live stock industry, the chief source of the country's wealth. The stock of sheep was estimated in 1916 as about 27,000,000; hogs, over 500,000; horses (statistics of 1915), 500,000. Live-stock statistics are prepared, primarily, by the animal sanitary police, a well organized force empowered to treat, to quarantine or to destroy diseased animals. The value of wool sheared each year is given as $25,000,000. Favorable conditions of climate and pasturage, together with intelligent methods of propagation, have induced that steady increase of the flocks of sheep which has made the Uruguayan wool-clip such an important matter. As statistics show, the sheep to-day may be divided into two classes — Spanish and British, omitting the Asiatic breed. The finest sheep in the world came originally from Spain, and the authorities of Uruguay have not only bestowed great care upon the selection and development of types that thrive best under local conditions, but also have spared no expense in their search for the finest varieties developed in other lands. The value of the slaughtered live-stock of all classes was shown in statistics submitted to the First Pan American Financial Conference to be less than the value of the "wool crop" — about $22,000,000 as compared with $25,000,000. But in 1915, when the total value of exports of the grazing and meat industry increased nearly 50 per cent, wool exports showed no corresponding gain. An important product of the live-stock industry is tasajo (jerked beef), chiefly exported to Brazil, Cuba, and Porto Rico. In 1914, more than 11,000 tons of tasajo were shipped from Uruguay to other countries, but in 1915 only 5,334 tons.

## COMMERCE AND MANUFACTURING INDUSTRIES

The value of Uruguay's imports from all countries in 1915 was $36,378,925, and of her exports to all countries, $76,222,298. The value of her imports from the United States in the same year was $7,519,654, and of her exports to the United States, $12,148,464. In 1916 the six countries leading in exports to Uruguay were, in the order of total value of such exports: United States (which exported to Uruguay, increasingly large quantities of agricultural implements, binder twine, cotton cloths, railway material,

and miscellaneous manufactures of iron and steel), Argentina, Great Britain, Brazil, Spain and Italy. The six countries leading in imports from Uruguay in 1916 were: in the order of total value of such imports: Italy, United States, France, Argentina, Great Britain, and Spain. The following tables show at a glance the chief groups of articles imported and exported:

IMPORTS BY GROUPS OF ARTICLES

*Sept., 1915, to Feb., 1916, inclusive.*

| | *Pesos* | | *Pesos* |
|---|---|---|---|
| Groceries, etc. | 5,224,587 | Drugs and chemical products | 101,229 |
| Drygoods and notions | 2,123,021 | Pharmaceutical specialties and druggists' sundries | 112,691 |
| Iron manufactures, stationery, ships' stores and jewelry | 2,200,401 | Perfumery | 54,123 |
| Electrical supplies | 42,278 | Inflammables | 1,102,546 |
| Musical instruments | 27,589 | Live animals | 2,462,404 |
| Furniture and upholstery | 51,649 | Primary materials | 2,106,348 |
| Shoemakers' wares, saddlery, and skins | 124,311 | Non-dutiable articles | 816,852 |
| Building materials, etc | 1,843,327 | Miscellaneous | 158,841 |
| | | Total | 18,453,177 |
| | | Value in currency of the United States | $19,191,304 |

EXPORTS BY GROUPS OF ARTICLES

According to the Boletín del Ministerio de Hacienda, the exports by groups of articles for the years 1914 and 1915 were as follows:

| | 1914 | 1915 |
|---|---|---|
| | *Pesos* | *Pesos* |
| Grazing and meat industry, including wool | 48,014,263 | 70,535,539 |
| Agriculture | 1,351,190 | 753,166 |
| Mine products | 2,525,573 | 1,109,825 |
| Fishing and hunting | 157,234 | 99,462 |
| Miscellaneous products | 99,248 | 561,417 |
| Ships' supplies | 271,294 | 240,266 |
| Total | 52,418,802 | 73,299,671 |
| Value in currency of the United States | $54,515,554 | $76,232,658 |

The foreign trade of Uruguay has been studied with a view to ascertaining also the percentage of each of the main divisions of the imports and exports. The result appears in the following table, which shows the average of recent years, thus minimizing the effects of such exceptional conditions as the war has created:

| Imports | Per cent. |
|---|---|
| Foodstuffs | 19.02 |
| Textiles and manufactures of | 18.77 |
| Iron, steel, and products of | 11.04 |
| Stone, earth, glass, etc. | 11.10 |
| Lumber and woods | 8.15 |
| Metals, not including iron | 8.15 |
| Industrial oils | 3.12 |
| Drugs | 2.24 |
| Live stock | 1.94 |
| Other products | 22.28 |

| Exports | |
|---|---|
| Live-stock products | 90.24 |
| Agricultural products | 4.23 |
| Mineral products | 4.60 |
| Game and fishing products | .46 |
| Ship provisions | .47 |

Uruguay's chief exports to the United States are leathers, meat products, and wool. Her principal imports from the United States are passenger automobiles, cotton cloths, drugs and chemicals, flour, hardware and tools, knit goods, iron and steel, lubricating oil, rosin, sugar, and tinplate.

The manufacturing industries of Uruguay are on a small scale as a rule, but a noteworthy exception is the immense establishment of the Liebig Company at Fray Bentos. In Montevideo there are flour mills and boot and shoe factories. Several woolen mills, brick and tile works, and glass and bottle factories are in operation. Other manufactures are: Furniture, cotton and linen cloth, cement, etc.

## MONEY, BANKING AND FINANCE

Uruguay's monetary system is based on the gold standard, the theoretical unit being the Uruguayan gold peso, divided into 100 centesimos and representing 1.697 grammes of gold .917 fine, or say 1.5561 grammes of pure gold. Its par value in terms of the currency of the United States is $1.0342 and the par value of $1.00, currency of the United States, in terms of Uruguayan currency is $0.96689 pesos. But, inasmuch as Uruguay has never actually coined the peso or other gold piece, the circulation consists of banknotes and foreign gold coins, which are legal tender at the following rates:

| | | |
|---|---|---|
| United States | Eagle | $9.66 Pesos |
| English | Sovereign | 4.70 " |
| German | 20 Marks | 4.60 " |
| French | 20 Francs | 3.73 " |
| Belgium | 20 Francs | 3.73 " |
| Italy | 20 Lire | 3.73 " |
| Spanish | Doblon | 4.82 " |
| Brazil | 20 Milreis | 10.56 " |
| Argentine | $5.00 Pesos | 4.66 " |

Exchange rates are quoted normally in Montevideo as follows:

| | | | | |
|---|---|---|---|---|
| London | 90 d/s | | 51 11/16d = | $1.00 Peso |
| London | sight | | 50 7/8d = | 1.00 " |
| Paris | 90 d/s | Frs. | 5.42½ = | 1.00 " |
| Paris | sight | " | 5.36½ = | 1.00 " |
| Berlin | 90 d/s | Mks. | 4.41 = | 1.00 " |
| Berlin | sight | " | 4.34 = | 1.00 " |
| New York | sight | U. S. Cy. | $1.00 = | 0.973 " |

The principal banks in Montevideo are: Banco de la Republica, Banco Popular del Uruguay, Banco Comercial, Banco Español, Banco Francés, Banco Alemán Transatlántico, Banco Británico de la América del Sud, Banco Anglo Sud-Americano, Banco de Londres y Río de la Plata, London & Brazilian Bank, Limited, and a branch of the National City Bank of New York. The first mentioned is really a state institution, its capital having been contributed solely by the government. It is administered by directors who, although appointed by the President of the Republic with the consent of the Senate, enjoy complete independence. In this connection we quote the observations of the Uruguayan delegation to the First Pan American Financial Conference: "Its employees are selected among the most able men, after having passed certain examinations, and the principal officials of the country, including the First Magistrate himself, take pride in not interfering with the independence of the bank, and they do their utmost to help increase its resources and credit. This bank, which to-day exercises a vital influence in the economy of the country by stimulating industries and trade, has twenty-four branches and agencies distributed among the principal cities and towns of the interior, and consequently can claim from an international point of view the financial representation of the Republic. In the near future the bank will be in a position to extend its field of operations to North, Central, and South America, establishing there also agencies and branches, for its capital is rapidly increasing by means of accumulated profits."

The budget for the fiscal year 1916–17 estimated expenses at $30,525,402.64 and receipts $29,452,776.55. For 1915–16 the figures were: $29,477,311.81 for expenses, including interest on public debts, and $29,578,000 for revenue, the chief sources of revenue, under the conditions created by the war, having been:

| | |
|---|---|
| Customs duties | *$12,500,000 |
| Taxes on real estate | 4,400,000 |
| Commercial licenses | 1,700,000 |
| Taxes on cigars and tobacco | 1,250,000 |
| Special duties for public education | 960,000 |
| Post office and telegraph | 700,000 |
| Taxes on alcohol | 805,000 |
| Taxes on matches | 320,000 |
| Taxes on beer | 190,000 |
| Taxes on brandy | 80,000 |
| Taxes on sugar | 260,000 |
| Taxes on wines | 280,000 |
| Export duties on live stock | 480,000 |
| Revenue stamped paper | 580,000 |
| Stamps | 360,000 |
| Consular fees | 360,000 |

* Custom duties yielded $17,500,000 in 1913–14.

As contributors to revenue we mention the following government institutions: The Bank of the Republic, the Mortgage Bank, the Insurance State Bank, and the electric light and power plants, capitalized with the proceeds of a $4,500,000 loan and constituting a state monopoly.

The public debts are: The consolidated debt, originating in a loan of £19,570,000 at 3½ per cent interest and 1 per cent sinking fund (the distribution of the securities being, in 1915, in Europe 69.73 per cent, and in Uruguay 30.27 per cent); the conversion loan taken by the Banque de Paris et des Pays Bas at 90 per cent net and sold to the public at 97 per cent, of which loan the holdings in Europe amount to 70.74 per cent, and in Uruguay 29.26 per cent; the guaranty debt, 4 per cent (practically redeemed through purchase by the state of the mortgage bank which had these securities as part of its capital); the unified interior debt, 4 per cent, $1,448,650 ($1,100,000 held in London and the balance in Uruguay); the Insurance State Bank loan, 5 per cent (the whole amount, $3,000,000, belonging to the State, "as the bank never felt the necessity of selling bonds"); the 1915 interior debt loan, $6,000,000, issued at 8 per cent. In March 1917 notice was received that the Uruguayan Government was proceeding to the conversion of the last-mentioned loan (8 per cent) into a new conversion loan at 6½ per cent, with a bonus of 5 per cent.

## TRANSPORTATION AND COMMUNICATION

The railroads in Uruguay radiate westward and northward from Montevideo, three lines connecting the country with Brazil. They are in the main of standard gauge; their total length in 1916 was about 1,580 miles, and they carry annually about 1,800,000 passengers and 1,700,000 tons of freight. Plans have been made for extending the system by the addition of 1,500 miles of track. The length of tramway lines in operation is about 170 miles; the total length of departmental wagon roads or bridle paths, more than 3,000 miles, and of national highways about 2,240 miles. Efforts are being made to put the highways in better condition for motor traffic. The river system is extensive and of great value for transportation, all of the following ports on the Uruguay River admitting vessels of nine (and some even of 14) feet draft: Carmelo, Nueva Palmira, Soriano, Fray Bentos, Nuevo Berlin, Casa Blanca, Paysandú, Salto, and Santa Rosa. On the Rio Negro the chief port is Mercedes; on the San Salvador River, the port of San Salvador; and small craft reach the interior on a dozen or more of the Uruguay's tributary streams. Steamship communication between Uruguay and foreign lands is maintained by transatlantic lines representing the chief nations of western Europe. Between Montevideo and New York there is a weekly service; local transportation lines keep the Uruguayan coast in touch with the Atlantic ports of Brazil or the river ports of Paraguay, and there is a regular nightly steamship service between Montevideo and Buenos Aires.

Uruguay has extended its wireless service by establishing a large station at Montevideo, with a range of 621 miles, and other stations identified with the War and Marine Ministry or Department. The number of post-offices in the country is about 1,200; of telegraph and telephone stations, about 60.

## WEIGHTS AND MEASURES

The metric system has been adopted officially (see Metric System) and gains ground steadily among the people in the chief centres of population, displacing such antiquated units as the *libra* (1.0143 pounds); *arroba* (25.35 pounds); quintal (101.4 pounds); *cuadra* (1.8 acres); *fanega* (30 gallons) etc. The recognized basis of thorough reform in this respect is practical demonstration of the greater convenience of the new system.

## ARMY AND NAVY

The strength of the army at present is given as slightly more than 8,000 — 600 officers and about 7,500 men — and about 100,000 men receive training in the national guard. For the navy, additional ships are being constructed. The number of vessels in 1916 was 12, with 60 officers and 600 men.

## POPULATION

The number of inhabitants in 1916 was estimated at 1,406,000. In the northern part of the republic there are many Brazilians, who cross the border from the state of Rio Grande do Sul; otherwise the population consists principally of Spaniards or people of Spanish descent (the most numerous class), of Italian colonists and citizens, and of the English, Swiss, and German residents who are actively engaged in business, banking, or agriculture.

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## POLITICAL DIVISIONS AND CITIES

The Oriental Republic of Uruguay is divided into 19 Departments. These with their areas, populations and capitals are as follows:

| DEPARTMENTS | Area (square miles) | Population | Capital | Population |
|---|---|---|---|---|
| Artigas | 4,394 | 36,340 | San Eugenio | 10,000 |
| Canelones | 1,834 | 107,068 | Guadalupe | 10,000 |
| Cerro Largo | 5,763 | 54,005 | Villa de Melo | 4,000 |
| Colonia | 2,193 | 74,458 | Colonia | 15,000 |
| Durazno | 5,525 | 51,737 | Durazno | 11,000 |
| Flores | 1,744 | 21,562 | Trinidad | 4,000 |
| Florida | 4,673 | 56,917 | Florida | 10,000 |
| Maldonado | 1,587 | 37,125 | Maldonado | 11,000 |
| Minas | 4,819 | 62,920 | Minas | 8,905 |
| Montevideo | 256 | 364,343 | Montevideo | 377,994 |
| Paysandú | 5,115 | 60,512 | Paysandú | 22,000 |
| Río Negro | 3,269 | 33,529 | Fray Bentos | 12,000 |
| Rivera | 3,793 | 43,342 | Rivera | 8,000 |
| Rocha | 4,280 | 45,300 | Rocha | 5,000 |
| Salto | 4,865 | 66,493 | Salto | 19,788 |
| San José | 2,688 | 57,011 | San José | 13,000 |
| Soriano | 3,560 | 51,413 | Mercedes | 25,000 |
| Tacuarembó | 8,112 | 56,438 | San Fructuoso | 8,000 |
| Treinta y Tres | 3,682 | 37,192 | Treinta y Tres | 10,000 |
| Total | 72,153 | 1,315,714 | | |

## Montevideo

The capital of the Republic is situated on the north shore of the estuary of the Rio de la Plata, 68 miles east of Buenos Aires. It is built on a peninsula running west from the mainland and inclosing the bay forming the harbor. The city is well built and has an imposing appearance. The climate is pleasant and the public services of the city are excellent. The streets are wide, straight and well paved. The depth of water in the harbor is not great, being only about 25 feet, and many of the warehouses and cranes are of recent installation. A comprehensive plan of improvement was submitted in 1913, which contemplates an expenditure of $13,500,000, and among other things the construction of a dry dock large enough for the biggest liners, a masonry mole in continuation of the commercial port for cargo boats drawing as much as 33 feet, a dock for ocean liners in transit with 39½ feet and another for river boats, a coaling wharf and a wharf for live stock. The chief industry is meat packing, the products forming a large percentage of the exports. Weaving and flour milling are of some importance. There are also glass and cement factories, shoe factories, 30 tanneries. Aside from these there are establishments for making paper, chocolates, matches, dairy products, haberdashery, mosaics, furniture, beer, tobacco, and several other articles for home consumption. Over 90 per cent of the imports and 70 per cent of the exports of Uruguay pass through Montevideo. The total value of the city's imports and exports is about $67,000,000 annually, the imports being slightly in excess of the exports. The principal exports are wool, hides, meat and meat extracts, animal fat and live stock, and the imports cotton goods, iron and steel, sugar, coal, woodwork, wines, machinery and chemicals. The railways of the Republic centre on Montevideo, and from it lead out to the northeast, to the north and to the northwest. It is the official residence of the United States minister to Uruguay and the seat of a consul-general of the United States.

## Other Cities

Colonia, the capital of the Department of the same name, is situated on the Rio de la Plata, nearly opposite Buenos Aires. It has a good harbor, docks and a dry dock, and has considerable trade with Buenos Aires and other river ports. The only Atlantic port of any importance is that at La Paloma, 60 miles east of Montevideo, which is small, the harbor being formed by two breakwaters and an island. The country back of La Paloma is well settled and cultivated and a railway line connects it with Rocha. Maldonado, 30 miles east of Montevideo, is considered as being on the bank of the river Plate. The harbor has considerable depth of water, but is of little importance as an ocean port. About 250 miles from Montevideo is the port of Fray Bentos, on the Uruguay River, which has a depth of water of about 30 feet, and at which 40 or 50 ocean-going vessels call each year. The most of the cargo is in connection with the Liebig plant, or the estancieros near by, or for the railways in course of construction. It has rail connection with the interior and with Brazil and is important as a distributing centre. Paysandu is also a river port of rising importance. It is situated on the Uruguay, 170 miles north of Buenos Aires; it is the centre of a rich agricultural and pastoral district. The chief industry is the preserving of beef, especially ox tongues. It has regular steamer communication with Montevideo and with Buenos Aires.

# VENEZUELA

By Marrion Wilcox

## NATIONAL BOUNDARIES, GEOGRAPHY, ETC.

THE republic officially called the United States of Venezuela lies in the northern part of South America and is bounded on the north by the Atlantic Ocean and the Caribbean Sea, on the east by British Guiana, on the south by Brazil and Colombia, and on the west by Colombia. It extends from lat. 0° 45′ N. to 12° 26′ N. and from long. 59° 35′ W. to 73° 20′ W., and has an area of approximately 393,976 square miles, divided among 20 states, a Federal District, and two territories (see Political Divisions and Cities, page 434).

### Topography

Nature has established in this land of varied physical characteristics five main divisions: (1) The long coast-line with its picturesque harbors; (2) The highlands of all that region south and east of the Orinoco, which may be called Venezuelan Guiana, or Guiana Highlands; (3) The great central area of plains or *Llanos*, those wide expanses, low-lying, nearly level, grassy but often treeless — with, at most, groups of palms and small trees near river banks; (4) The northeastern branch of the Andes Mountains; (5) the comparatively small regions of the Lake Maracaibo basin, etc. The coast-line and the Orinoco alone would be sufficient to give Venezuela importance in the world. Concerning the vast, more or less unexplored tract lying on the right bank of the Orinoco and near the headwaters of that river, Mr. Dalton

has written that " the area is primarily one huge elevated plateau about 1,000 feet or more above the sea, and from this rise a few principal mountain ranges, with some peaks over 8,000 feet high. The highest ground is found on the Brazilian frontier beginning at Mt. Roraima (8,500 feet), where the three boundaries of Venezuela, British Guiana and Brazil meet, and extends thence westward and southward to the headwaters of the Orinoco. The whole area (about 294,600 square miles) is well watered," and nearly all is covered with forests " containing rubber, tonka-beans, brazil-nuts, copaiba, and all the varied natural produce of the South American tropics." The Llanos of the Orinoco have a total area of 108,300 square miles. The elevation of the Llanos ranges up to



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Principal Street in Carácas, Venezuela

650 feet, and more than this in the mesas of the central region but large tracts are less than 300 feet above sea level. The whole area is traversed by numerous streams and rivers. The fourth great tract, the northeast spur of the Andes, divides it all naturally into three parts — the Caribbean range, along the shores of the sea of the same name, the Segovia Highlands, linking the former to the higher mountains of western Venezuela, and the Cordillera of Mérida, or the Venezuelan Andes. The total area occupied by those mountain and hill-tracts is about 41,800 square miles. The fifth division includes, beside the alluvial area of the lake of Maracaibo, the Coro and Paraguana lowlands and the numerous islands in the Caribbean which belong to Venezuela, and the area is estimated as about 27,800 square miles.

From Roraima the Orinoco-Cuyuní watershed extends northward within Venezuela to the Sierra Piacoa, and thence southeast along the Sierra Imataca to the British limits again. The Sierra Maigualida forms the watershed between the Caura and the Ventuari. This southern and southeastern region is well watered by the upper Orinoco and the Ventuari, with the other great tributaries, the Cuchivero, Caura, Aro, Caroni, and their affluents. And yet, large as these rivers are, they are so broken by rapids that travel along them is possible only in small portable boats or rafts.

It is necessary to differentiate carefully the river system of the Llanos region, where, north of the Meta, in addition to many smaller streams which broaden out into marshy lakes or *ciénagas*, we find the navigable rivers Arauca (the main waterway to eastern Colombia) and Apure, flowing from the Andes to the Orinoco in an easterly direction. The Apure receives many tributaries on its left bank from the Venezuelan Andes, most important of which are the Portuguesa and the Guárico — the latter flowing through the state to which it gives its name, and receiving the waters of at least one stream that has its source less than 30 miles from the coast in longitude 66°. Most important among the Orinoco tributaries from the north beyond the Apure is the Manapire. The waters of the eastern Llanos are carried northward by the Unare and Aragua into the Caribbean Sea. About 11,500 square miles are comprised in the famous Delta of the Orinoco, a region of inundated forest, savannah and mangrove swamp, in which the water-courses called caños are not regarded as portions of the Orinoco itself.

### Climate and Health

The marked climatic variations are occasioned chiefly by differences in elevation, latitude and vegetation. The Guiana highland region is, however, exceptional on account of its comparatively uniform elevation, which tends to equalization of temperatures, etc. Naturally in those parts of this region where mountain ridges rise above the general level of the plateau the temperature is lower than the average, but these constitute a small part of the whole. There is an important difference in the meteorological conditions in the various river-valleys of the Orinoco basin, where the "white-water"—i. e., the swiftly flowing but muddy streams, with rocky beds — are always accompanied by a clear sky overhead, and mosquitoes and crocodiles abound; in the "black-water"— the deep and slow rivers — the sky is

continually clouded, but the air is free from mosquitoes. The Orinoco represents the former type, the Rio Negro the latter. The rainy season in the Guiana Highland region begins in April and lasts till November; the remaining four months are fairly dry. The region of northern Venezuela is divided climatically into three regions, the hot, temperate, and cold zones. The hot zone or *Tierra caliente* ranges from sea-level to an elevation of about 1,900 feet, where the mean annual temperature varies from 74° Fahr. to 91° Fahr. The intermediate or temperate zone, the *Tierra templada*, lies between 1,900 and about 7,000 feet above sea-level, and within these limits the mean annual temperature may fall as low as 59° or 60° Fahr. The *Tierra fria*, or cold zone, including the highest peak in Venezuela, 16,423 feet, has mean annual temperatures ranging from 60° to zero. The *Tierra caliente* includes the greater part of Venezuelan Guiana, the Llanos, the coastal plains, the region of the lake of Maracaibo, the lower slopes and part of the central valleys of the mountains, and the Caribbean islands belonging to Venezuela. On the Llanos the hottest regions are the southern and western; the rainfall is heavy, and the wet season lasts from April to November. Maracaibo has the highest temperature of the cities of the coastal region; there the area around the lake is comparatively free from rain until August and September. The *Tierra templada* includes the greater part of the inhabited region of the hills. In the eastern part of the Caribbean Hills the rains last during the same months as in the Llanos, but in the Andes, particularly to the south, the seasons vary, and it is generally considered that there are two rainy reasons (light rains from April to June and heavy rains from August to November); but this applies rather to the eastern side of the watershed, the western side having an increasing similarity in seasons to the Llanos as one descends toward those plains. Only the higher portions of the Caribbean Hills are included in the *Tierra fria*, but between Tocuyo and the Colombian frontier the greater part of the area is situated above 7,000 feet. There strong winds prevail and the vegetation is sparse. The snow line being normally about 14,700 feet above sea-level, only the peaks of the highest mountains are snow-capped throughout the year.

The death rate for the whole republic is somewhat more than 25 per 1,000, and statistical tables show the largest tolls to be exacted by malaria (*paludismo*), typhoid fever, tuberculosis and gastric or nervous diseases. The Delta region is, of course, unhealthful. Statistics show that the Llanos division is by far

the healthiest, with the Andes next, and then the Caribbean Hills; and it is true that, although in some of the coast towns situated near swampy ground the death rate is high, the northern coast as a whole presents conditions favorable to health.

## Geological History and Mineral Resources

Mr. Dalton says that the geological changes which have played their part in the building up of the physical features of the country have left Venezuela in possession of splendid assets in respect to the minerals. The Venezuelan Guiana Highlands are not only formed of the oldest rocks in this republic but represent one of the most ancient land-surfaces in the world. "The great elevated platform from which rise the peaks and mountain chains of Venezuelan Guiana appears everywhere to be composed of similar rocks, gneisses, hornblende schists, and granites, all containing evidence of great antiquity in geological time. This complex is considered to be one of the oldest members of the Archaean system. Into its crevices and joints, dykes of quartz-porphyries and felsite were forced. Later movements of the earth's crust produced a shallow sea or series of lakes over this same region, and in these waters a series of beds of red and white sandstones, coarse conglomerate, and red shale were laid down to a thickness of 2,000 feet. Then the area was again elevated into dry land, and again veins or dykes of basalt, dolerite and similar rocks in a molten condition forced themselves into the fractures of gneisses and sandstone alike. The vertical-sided, flat-topped mountains of Guiana appear to be the result of protection that caps of igneous rock afforded to the softer sandstones immediately below. Such portions of the softer material as were thus protected from the effects of atmospheric weathering remain still as upstanding masses of horizontally stratified material, while surrounding unprotected masses have been denuded from the ancient foundation of gneiss.

The geological history of the northern part of the country has been eventful in comparatively recent times; for although no volcanoes, active or recently extinct, are known in Venezuela, the country has repeatedly sustained earthquake shocks. The first important tremor noticed after the discovery of the shores of the Caribbean was that of 1530, which destroyed the fortress of Cumaná. Earthquake and hurricane visited New Cadiz in 1543 and so disastrous were the results that from that day to the present Cubagua has been a desert island. In the 19th century there were

three earthquakes of great severity. In March 1812 a shock destroyed great parts of Carácas, La Guaira, Barquisimeto, Mérida, and other towns, and in the capital alone 10,000 people were killed. The other two occurred on 13 Aug. 1868 and in 1894.

With justice this part of the world has long held the reputation of being rich in minerals. Placer workings are the chief source of gold in the Guasipati gold-fields in Venezuelan Guiana, but the reefs from which it is derived have been discovered and worked at odd times; and in British Guiana, where the conditions are similar, the gold is generally found along the later intrusive dykes, the smallest dykes being the richest, while most gold is found where a basalt intrusion crosses one of the older ones. Coal of fairly good quality occurs in more than one of the Cretaceous and Tertiary groups of strata, near Barcelona, Tocuyo, Coro, and Maracaibo, as well as in the Andes. Iron is found in the gneiss south of the Orinoco Delta. Copper ores are fairly common in the northern cordillera, and the mines of Aroa in Yaracuy have been worked for years. Asphalt is found in the Pedernales district and on the shores of lake Maracaibo; and in the state of Monagas the Bermúdez " lake " of asphalt covers 1,000 acres. Other minerals are: Galena, sulphur, marble, kaolin, gypsum, calcium phosphate, opal, onyx, jasper, quartz, felspar, talc, mica, staurolite, asbestos, antimony, silver and tin.

## Fauna and Flora

Several species of the prehensile-tailed capuchin monkey are known in Venezuela, and many other kinds are found in the forests, including the black thumbless spider-monkeys and variegated spider-monkey; the banded douroucouli, little squirrel-monkeys and marmosets, etc. Bats and vampire bats are abundant. There are large specimens of the jaguar and puma, and (among other large cats) the ocelot, the jaguarondi, and margay. In the Andes the " spectacled bear " is found; the raccoon tribe is represented by the kinkajou; the weasels by the tayra, the grison, etc. The Brazilian otter is found in the rivers of the Llanos. The red Brazilian and Ecuadorean brockets represent the deer; there are two species of peccary and the manati is not uncommon. We mention also the peculiar tree porcupine and the capybara, or " water-hog "; the aguti, the sloth, the great-maned ant-eater or ant-bear, the lesser ant-eater, the two-toed ant-eater, and the armadillo; also the opossums called *rabipelados* and the *perrito de agua* or water-opossum. Many of the Venezuelan birds are beautiful, but few

have musical notes. Characteristic are: The manikins, with their gay plumage; the beautiful orange-red cock-of-the-rocks; the umbrella-birds or fife-birds; the bell-birds which make a noise like the ringing of a bell; jacmars, puff-birds, trogons, the king humming-birds; the great wood night-jars and the oil-birds or *guacharos*. There are flocks of green parrots and of blue and red or yellow macaws in the forests. No less than 32 species of falcons or eagles are known, and on the river-courses many water-birds are found — among these the herons or *garzas*, storks and ibises, rosy white or scarlet flamingoes, curassows and guans, the hoatzins (resembling pheasants), etc. The snakes are very numerous, poisonous varieties being the coral-snake, rattle-snake, and "bush-master", and non-poisonous varieties the water-boa and anaconda, the *cazadora*, and the wood-snake or *sipo*. There are 11 species of crocodiles; about six genera of frogs and toads represent the Amphibians, and of the former, one emits in croaking a sound resembling a human shout so nearly that "a number of them give the impression of a crowd at a football match." Among the fish, the well-known *caribe*, ferocious as its name implies, and the electric eel, or *temblador*, certainly receive more than their proportionate and appropriate share of attention in travellers' accounts, the life in the seas, rivers and lakes being abundant and varied. Insects of the forest regions (one-half of the entire country) naturally resemble those of the Brazilian *selvas* — the gorgeous butterflies and brilliant fireflies, the monkey-spiders, etc.

Within the vast forests of southern Venezuela, the plants range from the alpine shrubs and reindeer moss of some of the high plateaux and hills to the bamboos and orchids of the river banks. Forest giants and timber trees are: The Mora, with dark-red, fine-grained wood; the mahogany and a tree resembling rose-wood; the very large ceiba and mucurutu or cannon-ball tree. Specially important products of the forests are the Brazil nut, the tonka-bean (sarrapia), balatá, copaiba-balsam, rubber and *cinchona* or quinine. In the hot lowlands the chief products are cacao, sugar, plantains, bananas, cassava, maize and cocoanuts, with dye-woods and tanning barks, including dividivi, logwood, mangrove and indigo. In the cooler uplands (lower *Tierra templada*) coffee, cotton, cocoa, etc., flourish near the fields of wheat and potatoes; and a single garden may produce both roses and bougainvilleas; a single orchard, both papayas and quinces. The higher part of the *Tierra templada* shows us both palms and pines — in brief, a greater variety of plant life than can be found in the hot lowlands.

## HISTORY OF VENEZUELA

Dr. H. J. Spinden, of the American Museum of Natural History, writes in the *Scientific American*, 19 Aug. 1916, that the region now called Venezuela "is generally recognized (by archæologists) as the point of departure for the original culture of the West Indies." It is probable, also, that long before the discovery of the New World the tribes or peoples of the mainland, from the plateau of Bogotá to the valley of Mexico, held communication with tribes inhabiting the lower valleys of the Venezuelan Andes and the Caribbean Hills. Nevertheless the aborigines had advanced very little beyond mere savagery when Columbus, on 31 July 1498, coasted along the south side of the Peninsula of Paria. In 1499 Alonso de Ojeda, Amerigo Vespucci and others set sail, and, after landing several times on the peninsula just mentioned, continued the voyage westward to Coquibacoa (lake of Maracaibo), where the Indian pile-dwellings on the shores of the lake attracted special attention, recalling Venice, on a very small scale; and (perhaps by Amerigo's suggestion) the name Little Venice, or Venezuela, was bestowed upon that region.

Another group of voyagers in the same year touched at Margarita Island and obtained pearls from the natives. In 1500 about 50 adventurers, sailing from Hispaniola, established a settlement on Cubagua Island, near Margarita, and naturally an uncontrolled exploitation of the pearl fisheries began. At Cumaná, Manjar and a point near Barcelona on the mainland coast, there were settlements of a different character in 1513, 1518 and 1520: Franciscan and Dominican monks, engaged in missionary work at these continental stations, laid down their lives as martyrs in a noble cause. It was after studying the situation here that Bartolomé de las Casas used all the force of his great talent for the suppression of the traffic in Indian slaves. Nueva Córdoba, the modern Cumaná, was founded in 1521; Cori in 1527. The rule of the Welser (the bankers of Augsburg to whom Charles V granted the privilege of exploiting the province of Venezuela) was endured during two miserable decades, practically ending in 1545, though the grant was not formally withdrawn until 1558. In 1561 occurred the rebellion of Lope de Aguirre. Carácas, or Santiago de Leon de Carácas, was founded in 1567 (presumably, though the exact date has not been recorded) beside the Villa de San Francisco which Faxardo had built in 1560. In 1595 Sir Walter Raleigh first visited these regions of the "Oronoca", as he wrote the name (compare *Archæologia*, Vol. XVI, pp. 188-192, London,

Society of Antiquaries, 1812). Berrio y Oruña in 1615 led an expedition from San Thomé, east of the mouth of the Caroni, in quest of the fabled city of Manoa. In 1656 a station was again founded at Barcelona by Franciscan monks, and organized attempts to civilize the Indians were so largely successful that within 150 years the Franciscans founded 38 towns with 25,000 Indian inhabitants. Other orders established missions in 1686. The University of Carácas was founded by Philip V in 1721. The whole of what is now Venezuela (with the exception of the Maracaibo region) was in 1731 included in a new *Capitania-General*, to which Maracaibo was added in 1777.

The first definite attempt at revolt from the mother country occurred in 1797. Its leaders were captured and executed. A



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**The Grand Salon of the Federal Building, Caracas, Venezuela**

Venezuelan gentleman, Don Francisco Miranda, invaded the colony at Ocumare 25 March 1806. Repulsed by Captain-General Vasconcelos, he retired to Trinidad and about five months later made an unsuccessful landing at Coro. The first Venezuelan congress (44 deputies elected by seven provinces) met on 2 March 1811; the Declaration of Independence by the deputies took place on 5 July 1811. The seven provinces were at that time said to be regarded as forming a confederation of free, sovereign, and independent states; nevertheless, when leaders of the revolution were sufficiently strong to declare a constitution on 21 Dec. 1811, power was granted by that instrument to the central government to revise the provincial constitutions. On 25 July 1812 Miranda,

who had been appointed dictator by congress, capitulated with 4,000 men to the royalist leader Monteverde who was in command of only 3,000; four years later he died in prison in Spain. In 1813 Simón Bolívar, Venezuelan aristocrat, then 30 years of age, became the leader of the patriots. Initial successes were his; but a rising of half-breeds of the Llanos under Boves, in behalf of the royalists, delayed the conclusion of the struggle for years. Boves with royalist forces defeated Bolívar, who retired to the Antilles; an expedition of 15,000 men was sent from Spain under Morrillo; in 1815 the defeat of the patriots seemed, from the viewpoint of their European contemporaries, absolutely assured. But Simón Bolívar had gained a purely American point of view — he planned such campaigns as should liberate all of Spanish South America; and, as a matter of fact, to his brilliant leadership and to the support of the British Legion must be ascribed the prompt liberation of one-half of it. On March 1818 Col. Daniel O'Leary arrived with troops raised in London, consisting largely of veterans of the Napoleonic wars — tried soldiers destined to play an all important part in the liberation of Venezuela. Elections were arranged in the autumn, and on 15 Feb. 1819 Congress was installed in Angostura. In June Bolívar set out, accompanied by Col. James Rook and the British Legion, on his famous march to New Granada (Colombia); defeated the royalists in the battle of Boyacá on 7 August, and on 17 Dec. 1819 inaugurated the Great Colombian republic, embracing the largest part of northwestern South America. The last stage of the struggle began on 28 April 1821. Bolívar was in Tinaquillo, with 6,500 men. His generals were: Paez, in command of the British unit, and the Bravos de Apure; Cedeño, with one brigade of La Guardia, and the Tiradores, Boyaca and Vargas battalions; Playa, with a regiment of English rifles, the other brigade of La Guardia, the Granaderos and Vencedores de Boyacá; and Anzoátegui, with one cavalry regiment under a Llanero leader. The decisive battle of Carabobo, a victory for the patriots, was fought on 24 June 1821 by that force of 6,500, the opposing royalists numbering 5,000 men. The latter occupied a position difficult to reach, and their defeat in such circumstances proved to be such a crushing blow that, although casual fighting continued for a while, the end was in sight. On 8 Oct. 1823 the last of the royalist adherents capitulated.

Finding her position in the Great Colombia Union unsatisfactory, Venezuela withdrew from it on 13 Jan. 1830. Bolívar, to whom the Congress had given dictatorial power in 1828, retired

from office on 1 March 1830 and died of phthisis on 17 Dec. 1830 at Santa Marta. In April 1831 the new Congress of Venezuela assembled and elected General Paez as President of an independent Republic of Venezuela; an embassy was sent to Bogotá, and Carácas became once more the capital on 25 May. On 24 March 1854, President José Gregorio Monagas promulgated a decree abolishing slavery in Venezuela. Public works "of some magnitude" and a £1,500,000 European loan was authorized in 1863; the new Federal constitution was adopted 28 March 1864. Guzman Blanco, provisional President in 1879, was formally elected in 1880; and it has been said truly that he was "either actually or virtually President" throughout the period from 1880 to 1892. Ex-President Crespo secured re-election as Guzman Blanco's successor; and it was during his administration that the arrest by the Venezuelan authorities of two inspectors of the British Guiana Police on the Cuyuni River brought to a crisis the long-standing dispute in regard to the boundary between the British and the Venezuelan possessions.

We should bear in mind here the fact that during many years protests had been made by the representatives of Venezuela against the encroachments of residents and officials from British Guiana. The contentions of the two parties were: On the part of Venezuela, that the Dutch, to whom the British were successors, had only claimed jurisdiction on the east side of the Essequibo River; on the part of Great Britain, that the Dutch had in 1759 and 1769 put forward the claim that their territory included, not merely the Essequibo River, but the whole of the basin drained by that river and its tributaries. The British Government refused to consent to arbitration of the boundary, failing agreement by Venezuela that such parts of the Essequibo Valley as had been effectively occupied by British colonists should be recognized as British territory. Then came the arrest mentioned above.

Crespo appealed to Washington for protection. President Cleveland took up the cause of Venezuela, and in December 1895 sent his famous messages to Congress, in which he declared that any forcible action by Great Britain would constitute a *casus belli* with the United States. Great excitement prevailed in Carácas, associations being formed for the boycott of British goods and for national defence; but, wiser counsels prevailing on both sides, diplomatic relations were resumed in 1897. José Andrade became President in 1898. The boundary matter was submitted to arbitration, and finally settled on 3 Oct. 1899 by the award of the tribunal of Paris.

Cipriano Castro, who had assumed the executive power late in October (and did not receive confirmation by a constituent assembly until February 1901), was in office when Great Britain, Germany, and Italy declared a blockade of Venezuelan ports (January 1903) to enforce payments by Venezuela to compensate foreigners for the damage to property sustained by them during various revolutions. Castro's government agreed to the arbitration of the claims by third parties, and protocols with all the countries were signed within a few months. Castro was again elected, with General Gomez as one of the Vice-Presidents, and served two-thirds of his term; but in 1909 he sailed for Europe, and then General Gomez interpreted correctly the preference of his people when by a *coup d'état*, he secured without bloodshed his own safety and the presidential power. He was established as Constitutional President by virtue of the election of April 1910. The Gomez government survived two rebellions in 1913, the first an uprising in the State of Trujillo, and the second an insurrection in the southwest in favor of Castro, the Ex-President. The insurrectionary forces were dispersed. On 19 April 1914 Congress elected Gen. V Márquez Bustillos as provisional President of the republic. A new constitution went into effect 19 June 1914. On 3 May 1915 the Congress by unanimous vote elected General Gomez as President of the Republic for the term 1915-1922.

## GOVERNMENT

Venezuela is a federal union of states that retain autonomy in their internal government, certain limited powers only being vested in the federal government. The constitution now in force is that of 13 June 1914. The legislative authority is vested in a congress of two houses — the Senate and Chamber of Deputies — the former consisting of 40 members elected by the Legislative Assemblies of the States for three years, 2 for each state, Venezuelans by birth and over 30 years of age; the latter composed of deputies chosen from each state and the Federal District by a direct vote and for three years, 1 deputy for each 35,000 inhabitants, and an additional deputy for each additional 15,000. Deputies hold office three years, must be Venezuelans by birth, and over 21 years of age. Congress meets on April 19 of each year, the sessions lasting 70 days.

The executive power is vested in a President and a cabinet of ministers, who act in conjunction with the President. The President is elected by the National Congress for seven years; and must be a Venezuelan by birth and over 30 years of age, and is eligible for the constitutional period immediately following that in which he holds office. During the temporary absence of the President, the office is occupied by the minister of state designated by him. In case there is no president, the power is exercised by the president of the Federal and Cassation court, who must then immediately convene the Congress to elect a new President for the remaining term of the office. The cabinet is appointed and renewed by the President and is responsible to him alone. It is



**Treasury Department, Caracas, Venezuela**
(Courtesy of the Pan American Union)

composed of seven Ministers, in charge of the Departments of Interior Relations, Foreign Relations, Finance and Public Credit, War and Marine, Fomento (Promotion), Public Works, and Public Instruction. The Federal judiciary comprises the Supreme Federal and Cassation court, and courts of first instance established in the states, the Federal District and the territories. The justices of the Supreme Court, seven in number, are elected by the National Congress for a term of seven years, and the court meets annually.

Each of the 22 states has a legislative assembly whose members are elected in conformity with the respective state institutions. The executive power of each state consists of a president and a secretary-general. The states are divided into districts and

the latter into municipalities, each district having a Municipal Council, and each municipality a communal board. The Federal Territories are administered by governors appointed by the President of the Republic, the governors in turn appointing their secretaries. The Federal District comprises the city of Carácas, the capital of the Republic, together with the parishes of El Recreo, El Valle, La Vega, Antimano, Macarao, Macuto, and El Departmento Vargas.

## EDUCATION AND RELIGION

Attendance at schools of primary grades is compulsory and free. The public schools are maintained by the nation, the state, or the municipalities, according to circumstances. There are about 1,500 elementary schools with an attendance of 50,000 pupils. Of secondary schools there are 102 (58 for boys and 38 for girls, the others admitting both sexes), while Carácas has a normal school for young women and another for young men, for the practical instruction of each sex. There are 34 national schools for higher instruction, and the Government subsidizes 21 other schools of this grade. A degree is given at the end of a four years' course. Carácas has its famous university and Mérida the University of Los Andes, both having faculties of political and ecclesiastical sciences. The university at Carácas has faculties of medicine and mathematics, while in the capital there is also a school of engineering. Instruction in the fine arts, in arts and crafts, and military and naval matters, is given in special organizations. Moreover, there are commercial schools in Carácas, Ciudad Bolívar and Maracaibo, in which both day and night classes are held. The Government has established at Puerto Cabello a practical school of naval construction which is maintained in connection with the docks and shipyards. In the City of San Cristóbal there has been inaugurated the Simón Bolívar School of Political Science. At Carácas a school of mathematics with courses in higher mathematics and sciences has been opened; and there has been added to the School of Commerce at Carácas an institute for the study of modern languages.

It is worthy of note that, in spite of the apathy of some of the states and the decreased public revenues during the European war, earnest efforts on the part of the Venezuelan Government to extend the school provision and improve the entire system of

education have been continued. A recent report of the minister of public instruction dwelt upon the need of a new order of rural education. It was pointed out that small model farms should be attached to such schools, the distinguished official observing: "If this plan is followed throughout the Republic and the small farm schools provided with competent instructors, the benefit in the development of agricultural industry, the basis of new public wealth, will be great."

The National School of Arts and Trades for boys maintained at Carácas offers a select course in the general subjects of primary education, together with training for various trades. In the general course mathematics is extended to include geometry, and lineal drawing forms a special feature. The trade courses are numerous, including typewriting, lithographing, industrial modeling, bookbinding, metal work, ironwork, carpentry, tapestry, woodwork, forging, electrical engineering, telephoning, management of automobiles, etc.

The Woman's School of Arts and Trades, Carácas, is also a national institution, under the control of the minister of public instruction. Applicants for admission to the school as regular students must have completed the five years' course of elementary instruction as shown by a certificate of proficiency. While Roman Catholicism is the state religion, there is toleration of other forms of worship. The archbishop of Carácas has five suffragan bishops.

## ARMY AND NAVY

Under the provisions of a recent law of the national Congress, the standing army of Venezuela numbers about 9,000 men, including commissioned officers. The active army has infantry, artillery, and cavalry. It contains 20 battalions of infantry, with 400 men to a battalion, and eight battalions of artillery. In addition, there are reserves estimated to number about 100,000 men. The Venezuelan navy consists of two cruisers, the *Mariscal Sucre* and *General Salom;* three gunboats, *Miranda, José Felix Ribas,* and *Salias;* an army transport, the *Zamora,* the brigantine *Antonio Diaz,* and another small craft, the *San Carlos.* The personnel of the navy comprises about 500 officers and men.

## AGRICULTURE AND CATTLE RAISING

Over 200,000 acres are devoted to coffee, on estates in the northern and western zones of the country, and the value of the exports of coffee annually is about $14,000,000 (average of the years 1913–1916, inclusive). Both cacao and sugar are produced, the number of cacao plantations being about 5,000 and the annual output of sugar about 3,000 tons. Cotton is cultivated, and is almost altogether consumed in the textile mills operating in Valencia, Carácas and Cumaná.

The live stock has always been a source of national wealth, and it is thought that the extensive llanos toward the south and in the drainage area of the Orinoco River will, when better utilized, be regarded as among the best grazing lands in America. Modern refrigerating plants lately established in Puerto Cabello and in Barranco on the Orinoco have given impetus to the raising of cattle for the export meat trade. Estimates of the live stock in 1915–16 were as follows: More than 2,000,000 cattle, about 1,700,000 goats, 177,000 sheep, 191,000 horses, etc. The agricultural and pastoral industries employ about 60,000 laborers.

A presidential decree of 12 March 1917 created an experiment station of agriculture and forestry, with a garden of acclimatization, to be located on lands near the city of Carácas. The purposes for which it was created were stated to be: The study of improved methods of cultivation of the principal agricultural products of the country; introduction, selection, and distribution of seeds; experiments in reforestation; report upon soils suitable to each kind of cultivation and the crops to each region; and practical work for the training of agricultural foremen and forest rangers.

## MANUFACTURING INDUSTRIES

As a rule, Venezuela imports all manufactured materials that are required; there are, however, several sawmills and lumber factories, using native woods, and tanning factories where leather of good quality is prepared. Two paper factories have proved commercially profitable. The mills of Valencia, Caracás, and Cumaná turn out cotton cloth and many finished articles of clothing. In Cumaná there has recently been established a factory for the extraction of cocoanut oil and cocoa butter, and exportation of

these products has already taken place. Other products are: Matches, chocolate, beer, glass, cigarettes, etc. Increase in the manufacture of sugar was noted (1916–17) in the States of Zulia and Yaracuy.

## COMMERCE

Venezuela's foreign trade for the year 1915 amounted to $36,874,663, of which $13,470,236 represented imports, and $23,404,427 exports. The figures for the preceding year were: Imports, $13,987,465; exports, $21,520,534; total, $35,507,999. The decrease for the year in imports was $517,229, and the increase in exports, $1,883,893, or a net increase of $1,366,664. The latest available statistics show imports (by values and countries) as follows:

| | 1911 | 1912 | 1913 | 1914 | 1915 |
|---|---|---|---|---|---|
| United States | $5,219,558 | $6,832,438 | $6,944,136 | $6,015,445 | $7,943,219 |
| United Kingdom | 5,382,388 | 4,433,473 | 4,296,295 | 2,893,097 | 2,906,539 |
| Netherlands | 1,337,044 | 1,671,002 | 1,586,207 | 1,456,493 | 788,433 |
| France | 1,857,564 | 2,616,400 | 1,093,656 | 777,638 | 654,530 |
| Spain | 666,351 | 926,445 | 722,645 | 481,687 | 651,608 |
| Italy | 597,329 | 720,639 | 555,633 | 547,528 | 484,826 |
| Colombia | 4,465 | 11,926 | 12,849 | 14,028 | 31,886 |
| Cuba | 2,560 | 1,545 | 838 | 1,833 | 6,994 |
| Sweden | | | | | 1,324 |
| Porto Rico | 212 | 209 | | | 319 |
| Argentina | | 4,297 | | | 286 |
| Panama | | | | 33,795 | 272 |
| Costa Rica | 97 | | | | |
| Ecuador | | | | 550 | |
| China | 451 | | | | |
| Austria-Hungary | 4,261 | 7,316 | 2,032 | 1,435 | |
| Belgium | 126,664 | 142,668 | 228,563 | 156,488 | |
| Denmark | | 1,192 | | 17,482 | |
| Germany | 3,195,945 | 3,199,389 | 2,586,986 | 1,589,966 | |
| Other countries | | | 264 | | |
| Total | $18,394,889 | $20,568,939 | $18,030,104 | $13,987,465 | $13,470,236 |

In 1916 the value of merchandise imported by Venezuela from the United States was nearly $12,000,000. The principal articles imported during recent years (from all sources, including the United States) were: Agricultural implements and machinery, automobiles and accessories, bagging, butter, cotton textiles, drugs and medicines, flour, lard, machinery (other than agricultural), rice, tanned or unmanufactured skins, stearin, thread, and wines. The chief articles noted in February 1917 as imports from the United States were cotton cloths, flour, leather, and iron and steel.

The exports by countries were as follows:

| Countries | 1911 | 1912 | 1913 | 1914 | 1915 |
|---|---|---|---|---|---|
| United States | $7,083,261 | $9,907,604 | $8,475,531 | $9,378,668 | $13,170,113 |
| Netherlands | 1,063,595 | 712,351 | 709,343 | 907,636 | 3,199,183 |
| France | 6,162,172 | 6,914,175 | 9,988,044 | 6,018,826 | 2,978,020 |
| United Kingdom | 2,067,808 | 1,636,261 | 2,207,738 | 1,426,946 | 2,041,221 |
| Spain | 1,308,334 | 1,464,377 | 1,369,421 | 1,091,498 | 1,079,943 |
| Italy | 142,505 | 212,301 | 252,507 | 283,159 | 523,632 |
| Denmark | ..... | 1,276 | 6,398 | ..... | 256,346 |
| Colombia | 95,410 | 72,247 | 415,227 | 100,369 | 45,545 |
| Norway | ..... | ..... | 1,930 | ..... | 44,962 |
| Sweden | ..... | ..... | ..... | 1,332 | 41,687 |
| Cuba | 153,504 | 4,376 | 11,386 | 561 | 19,670 |
| Porto Rico | 4,681 | 6,171 | ..... | ..... | 2,132 |
| Panama | ..... | 834 | 3,838 | 832 | 1,933 |
| Austria-Hungary | 283,630 | 271,260 | 395,896 | 366,571 | ..... |
| Belgium | 50,129 | 114,766 | 82,762 | 13,173 | ..... |
| Dominican Republic | ..... | ..... | ..... | 1,299 | ..... |
| Germany | 4,269,211 | 3,942,709 | 5,563,768 | 1,929,664 | ..... |
| Turkey | 144 | ..... | ..... | ..... | ..... |
| Total | $22,684,384 | $25,260,908 | $29,483,789 | $21,520,534 | $23,404,427 |

The principal articles of export for 1915, with approximate values, were: Coffee, $12,173,781; cacao, $5,015,429; cattle hides, $1,707,275; balatá, $817,952; gold, $1,326,648; goat and kid skins, $263,572; asphalt, $340,702; beef cattle, $259,890; sugar, raw, $177,699; copper ore, $218,800; rubber, $145,682; dividivi, $94,763; chicle, $322,388; beef, frozen, $280,470; heron plumes (aigrettes), $172,371; pearls, $50,558; tonka beans, $115,273.

In foreign trade there is a growing preference for the metric system of weights and measures, which was adopted by decree of 18 May 1912.

## MONEY, BANKING AND FINANCE

The monetary system is based on the gold standard, the unit being the bolívar, divided into 100 centimos, and weighing 0.32258 grammes of gold .900-fine, or say 0.29032 grammes of pure gold. The par value of the bolívar is $0.19295, currency of the United States, and the par value of $1.00 in terms of Venezuelan currency is B 5.18262. In January 1912, the Government of Venezuela issued a decree fixing the value of the foreign gold coin circulating in the country and specifying that public offices must receive and pay out these coins at the following rates:

| | Bolivars |
|---|---|
| 20 Franc piece of France, Belgium, Italy, Switzerland, (fractions in proportion) | 20.00 |
| English Sovereign or £ Sterling (Half-sovereign in proportion) | 25.25 |
| Spanish gold onza, onza patriota, Central American onza of any year, Colombian onza, etc. | 80.00 |
| United States twenty-dollar gold piece (fractions in proportion) | 104.00 |
| German double crown or 20 mark piece (fractions in proportion) | 24.75 |
| Double condors of Colombia (fractions in proportion) | 100.00 |
| Mexican onza, weighing 33.770 grammes .875-fine gold | 100.00 |
| Spanish Isabelina of 25 pesetas (fractions in proportion) | 25.00 |

The principal gold in circulation is Venezuelan gold of the same weight and fineness as that of the Latin Monetary Union. Probably more American gold is in circulation in Venezuela than any other foreign gold coin.

The exchange rates as normally quoted in Venezuela are (for checks):

American gold .....3-days' sight
B 5.22 to 5.25 =$1.00

American gold .....60-days' sight
B 5.15 " 5.18 =$1.00

Since the war, foreign exchanges have advanced in value in terms of Venezuelan currency. (Consult Cosby, J. T., *Latin American Monetary Systems and Exchange Conditions* (New York 1915).

The three principal banking institutions are: The Bank of Venezuela (capital B 12,000,000, headquarters at Carácas and agencies at 14 other points in Venezuela, issue of bank notes constantly under $400,000); Bank of Maracaibo (capital B 1,250,000); Bank of Carácas (capital B 6,000,000, branches in some of the important Venezuelan commercial centres, circulation of bank notes to the amount of about one-tenth of the issue allowed by its charter).

In April 1915 Mr. L. Elwyn Elliot wrote:

"For the last four years Venezuela has been in the agreeable position of possessing a substantial surplus of national revenue over expenditure, and as a part of this ready cash has been preserved in the country's exchequer no doubt it will assist in tiding over such financial disintegration as resulted from the European war outbreak. Since the year 1910 this surplus has varied, but there has always been an addition to the national fund; in 1912 it amounted to nearly $2,500,000 gold."

The budget estimates for 1915–16 were: Revenue $7,918,900 and expenditures $7,840,480.

It remains to present the following synopsis of Venezuelan loans and statement of the public debt:

1820. Debt contracted while Ecuador and Venezuela formed part of greater Colombia. It amounted to £547,783, for which debentures were issued.

1822. Loan by Graham & Powels for £2,000,000. Issue at 80 per cent, 6 per cent interest per annum. A portion of this loan was used to cancel the debt of 1820.

1823. Loan of $30,000,000. General revenue and tobacco revenue pledged as a guaranty.

1824. Loan of £4,750,000 by B. A. Goldsmith & Co., of Hamburg. Issue at 85 per cent. Interest rate of 6 per cent per annum.

1834. An apportionment was made in this year for the public debt of greater Colombia, Venezuela assuming 28.5 per cent, or £1,888,396.

1848. Conversion of active debt interest at the rate of 4 per cent per annum.

1856. Venezuela received $1,140,000 in 4.5 per cent Peruvian bonds, as proportion of debt from Peru.

1862. Loan issued at London for £1,000,000, at the rate of interest of 6 per cent per annum, 2 per cent sinking fund. Rate of issue, 63 per cent. Pledge was given of 55 per cent of import duties collected at La Guaira and Puerto Cabello.

1864. General Credit & Finance Co., of London, took loan of £1,500,000, at 60 per cent issue and 6 per cent interest.

1872. Decree by which custom receipts were divided into 100 units, of which 27 per cent was allotted for the service of the external debt.

1889–1891. Public debt of Venezuela is divided into 4 classes: Domestic, diplomatic, foreign, and bonds. In 1891 the total debt of Venezuela was as follows:

| | |
|---|---|
| Domestic (5 per cent), consolidated | $7,595,227 |
| Foreign (3 per cent), external | 13,450,675 |
| Diplomatic (13 per cent) | 1,000,000 |
| 1 per cent monthly debt | 647,499 |
| | $22,693,401 |

Less than 14 per cent of revenues was pledged for the service of these obligations.

1895. German loan of 50,000,000 bolivars by Diskonto-Gesellschaft, of Berlin, at 80 per cent issue. Bonds bearing 5 per cent interest and 1 per cent sinking fund.

1902. Consolidation of various internal debts by issue of bonds for 65,000,000 bolivars at 6 per cent.

1902. Debt of allied powers, by virtue of protocols signed at Washington, totaling $7,147,386.

The annual report of the Secretary of the Treasury of Venezuela to the Congress, dated April 1915, gave the following resumé of the public debt:

| | | | |
|---|---|---|---|
| Internal debt: | | | |
| I. National internal consol, 6 per cent — | | | |
| | Bolivars. | | |
| First issue | 23,927.47 | | |
| Second issue | 16,772.12 | | |
| | | Bolivars. | |
| | | 40,699.59 | |
| II. 1 per cent bonds, eighth issue | | 38,165.62 | |
| III. National internal 3 per cent consol | | 59,068,721.47 | |
| IV. National internal consol, no interest | | 1,135,644.83 | |
| V. Treasury bonds to bearer | | 349,102.13 | |
| | | | Bolivars. |
| | | | 60,632,333.64 |
| External debt: | | | |
| I. National 3 per cent diplomatic (by diplomatic conventions) | | 9,723,291.61 | |
| II. Provisional certificates (Spain) | | 1,600.00 | |
| III. Diplomatic debt (3 per cent), conversion and issue of 1905 | | 101,267,650.00 | |
| | | | 110,992,541.61 |
| Or a total indebtedness of | | | 171,624,375.25 |

This is equivalent to $33,000,000, which is a per capita debt of about $11.

## TRANSPORTATION AND COMMUNICATION

The total length of railways in operation in Venezuela is 534 miles and the number of lines is 12 (5 national and 7 foreign), with an invested capital of approximately $40,000,000. There are several points along the coast from which railways extend into the interior, but only in one locality have these lines been connected. In the extreme west there are three lines approaching lake Maracaibo, but they are independent of each other and serve quite different areas of the country. Passing along the coast there are several short lines, facilitating traffic between the interior and the sea; these, too, bear no relation to each other. The only place in the Republic where an extensive development has taken place is near the capital, Carácas, and in the most populous districts of the country. From the two most important ports on the Caribbean Sea, Puerto Cabello and La Guaira, railways pass to the interior, one to Valencia and the other to Carácas. Between these two interior points a third railway has been built, so that this rich and productive district is well supplied, comparatively, with transportation facilities.

Street railways (electric) are in operation in the capital. The government is giving special attention to the maintenance and improvement of its public roads and highways. At present two important roads are in process of construction, one 31 miles long, from Carácas to Guatire, and the other 36.6 miles long, from Maracay to Ocumare. The projected Great Western Highway, more than 700 miles long and designed to link Carácas with San Cristóbal, is the greatest public work the country has ever planned. It will give access or facilitate approach to vast areas in seven states.

The waterways form important means of communication and transportation, there being no less than 70 navigable rivers in the country, with a total navigable length of over 6,000 miles, of which the Orinoco, the third largest river in South America, with its tributaries, furnishes nearly 4,000 miles. Other navigable rivers are the Meta, the Apure, the Portuguesa, the Yaracuy, and the Escalante, all of which are navigated by steamships for considerable distances. The Zulia-Catatumbo River flows into lake Maracaibo and is navigable for small steamers, while the majority of the other rivers are navigable for steam launches and flat-bottom boats only.

A regular steamship service is maintained on the Orinoco, Apure, and Portuguesa between Ciudad Bolívar, the principal port on the Orinoco, and the interior, as well as points along the coast. Ocean-going vessels enter lake Maracaibo, which covers an area of 8,000 square miles, and is navigable in its entirety. Lake Maracaibo is connected with the Gulf of Venezuela and the Caribbean Sea by means of a strait 34 miles in length and from 5 to 9 miles wide. Lake Valencia is navigated by small steamers.

With its coast line of more than 2,000 miles, Venezuela possesses no less than 50 bays and 32 ports. The most important of the latter is La Guaira. Other ports at which ocean-going vessels call regularly are Puerto Cabello, Carupano, Guanta, and Cumaná. Ciudad Bolívar, on the Orinoco River, 373 miles inland, and Maracaibo, on lake Maracaibo, are the most important inland ports.

A regular service is maintained by several lines of steamers between New York, New Orleans, and Venezuelan ports, and European lines to the Caribbean Sea have La Guaira as a port of call.

The Fluvial and Coastwise Navigation Company of Venezuela has arranged with the government to establish a regular semi-monthly steamship service on the Orinoco River and its tributaries, extending to Port of Spain, Trinidad, as well as

between Ciudad Bolívar and Maracaibo, touching at Cristóbal Colón, Port Sucre, Carúpano, Guanta, La Guaira, Puerto Cabello, La Vela, and possibly at intermediate points.

There are nearly 300 post offices scattered throughout Venezuela, and the telephone and the telegraph are both steadily increasing in use. The number of telegraph stations is given as 211, with wire extending 5,455 miles. The telephone services have about 13,000 miles of wire.

## POPULATION

The number of inhabitants was about 2,850,000 in 1917 — averaging rather more than seven to the square mile. As Mr. Dalton has written, the Indians have in general been absorbed into the Spanish-speaking nation. Aboriginal inhabitants who preserve their habits and racial customs unchanged are found principally or only along the northwest frontier and in the forests of the southeast and south. The Goajiros dwell as an independent tribe among the mountains along the Colombian frontier; the Caribs inhabit forests along the banks of the Caroni and the Upper Orinoco and its tributaries; and in the remote southern regions of forest and highland there are about 16 tribes of other native races.

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## POLITICAL DIVISIONS AND CITIES

Venezuela is divided into a Federal District, 20 States and two Territories. These, as far as possible with their areas, populations, capitals and populations are given herewith. The total area is about 393,852 square miles and the population is estimated at 2,816,484.

| STATES | Area (square miles) | Population | Capital | Population |
|---|---|---|---|---|
| Anzoátegui | 16,708 | 31,080 | Barcelona | 14,000 |
| Apure | 29,529 | 19,500 | San Fernando de Apure | 5,000 |
| Aragua | 2,161 | 28,000 | La Victoria | 14,000 |
| Bolívar | 91,808 | 52,217 | Ciudad Bolívar | 11,686 |
| Carabobo | 1,794 | | Valentia | |
| Cojedes | 5,712 | | San Carlos | |
| Falcon | 9,672 | 139,110 | Coro | 9,452 |
| Guarico | 25,630 | | Calabozo | 6,000 |
| Lara | 7,642 | | Barquisimeto | |
| Mérida | 4,301 | 108,105 | Mérida | 14,356 |
| Miranda | 3,008 | | Ocumare del Tuy | |
| Monagas | 11,155 | | Maturin | 4,258 |
| Nueva Esparta | 400 | | La Asunción | |
| Portuguesa | 5,867 | | Guanare | 4,000 |
| Sucre | 4,554 | | Cumaná | 12,226 |
| Táchira | 4,284 | 124,596 | San Cristóbal | 16,797 |
| Trujillo | 2,856 | 177,855 | Trujillo | 16,481 |
| Yaracuy | 2,740 | | San Felipe | 17,000 |
| Zamora | 13,587 | | Barinas | 6,000 |
| Zulia | 25,283 | 182,614 | Maracaibo | 34,740 |
| Federal District | 743 | | Caracas | 90,000 |
| TERRITORIES | | | | |
| Amazonas | 108,736 | | San Fernando de Atabapo | 3,000 |
| Delta-Amacuro | 15,517 | | Tucupita | 4,500 |

### Caracas

The capital and largest city of the United States of Venezuela is situated on the southern slope of the Coast Range, about 8 miles inland and at an elevation of 3,000 feet. It stands on a plain bordered by high mountains, and has a delightful climate, the average temperature for the year being about 68° F. It is built on the usual plan of Latin-American cities, with streets crossing each other at right angles, but the otherwise level contour is relieved by three gullies which descend to the Guaire River, flowing at the foot of the city. The streets are narrow but well paved and shaded, and there is a good tramway system, run by electricity obtained from two water-power plants some miles away. The city is subject to earthquake shocks, and the buildings are consequently nearly all built of adobe and are of a single story, with the patio or courtyard in the centre, though in the public buildings being erected reinforced concrete is being used more and more and is increasing in popularity. The greatest objection to the city as a place of residence is the lack of a good sanitation system, and yellow fever prevails there at times. There are no manufacturing industries except a few to supply articles for local consumption. It is, however, the centre of the export trade of the district, which produces cacao, coffee, tobacco, etc. It is the residence of the United States minister to Venezuela and the seat of a consular agent of the United States. The seaport of the city is La Guaira, with which it is connected by a railway that winds around the mountains for 23 miles. Many good roads are in course of construction in Caracas and the neighboring country. The city is also the terminus of a railway to Puerto Cabello and Valencia.

## La Guaira

The principal port of the Republic is situated on a narrow strip of land between the mountains and the sea about eight miles from Caracas. Its climate for most of the year is very hot and the average temperature is about 84° F. for the year. Recent sanitary improvements have lessened its unhealthfulness. It holds first place in point of imports and fourth place in exports. The harbor has a long sea wall which gives good anchorage to ocean vessels, the total number of which is over 380 annually of 645,000 tons. This breakwater has been widened into jetties for loading and unloading cargo. Manufactured goods form the bulk of its import trade and the exports consist of coffee, cacao, and skins. The total value of its foreign commerce is approximately $13,000,000 yearly. The city has manufactures of hats, boots, cigars and cigarettes and other articles for home consumption. Steamship lines connect it with North American and European ports and it is the terminus of a cable to Curacoa. A railway connects it with Valencia and Caracas. A consul of the United States is stationed here.

## Puerto Cabello

The second port of Venezuela is situated on the Golfo Triste, 55 miles west of Caracas, with which it has rail connection. Its climate is hot and unhealthful, but it has a good harbor protected by a chain of islands and fortified. It ranks second in exports and third in imports. The exports valued at several millions of dollars include coffee, cocoa, hides and skins, frozen meat, rubber, sugar, and various other articles; the imports consist of textiles, foodstuffs, and other manufactured articles. There is a floating dry dock here capable of docking vessels of 4,000 tons, and a shipbuilding plant in which vessels 125 feet long have been built. It is the seat of a United States consul. Its population is estimated at 18,282.

## Maracaibo

The capital of the State of Zulia is situated on a sandy plain on the west shore of the strait which connects the Gulf of Venezuela with lake Maracaibo. It is well built, has tramways, electric lights, telephones and manufactures of hats, shoes, candles, soap and lumber. The climate is hot but healthful. Its principal importance is as a shipping point for the exports of the surrounding region of western Venezuela and a part of eastern Colombia. It has a fine deep harbor and the finest dockyards in the Republic; the entrance, however, is obstructed by a shifting bar. Its foreign trade approaches $3,500,000 annually. The exports include coffee, cocoa, quinine, dyewoods, sugar and hides. The port has steamship connection with the United States and is the seat of a United States consul. There is usually one sailing a week for the lake ports of La Ceiba, Santa Barbara, and Encontrados, which serve the States of Trujillo, Merida, and El Tachira, in Venezuela and of Santander in Colombia.

## Maturin

The capital of the State of Monagas is situated on a savanna west of the Delta of the Orinoco, 40 miles inland from the Gulf of Paria. It is connected by a highway with the port of Cumaná to the northwest and is the commercial centre of the plains west of the Delta. The climate is healthful with an average annual temperature of 80° F. In the surrounding plains stock raising and the cultivation of coffee, sugar cane, cocoa, cereals and fruits are carried on.

# MEXICO

By John H. Cornyn

## NATIONAL BOUNDARIES, GEOGRAPHY, ETC.

THE United States of Mexico is situated between 14°, 30′, 42″ and 32°, 42″ North lat., and between 86°, 46′, 8″ and 117°, 7′, 31″ long. west of the meridian of Greenwich, and embraces 18°, 11′, 18″ of latitude and 30°, 21′, 23″ of longitude. Its total area is 767,326 square miles, and its boundaries are the United States on the north, Guatemala and Belize on the southeast, the Pacific Ocean on the south and west, and the Gulf of Mexico and the Caribbean Sea on the east. Its coast line on the east is 1,772 miles in length and on the west or Pacific side, 4,594 miles. The northern or United States boundary was fixed by treaty 2 Feb. 1848 and 30 Dec. 1853, and extends from the mouth of the Rio Grande, on the Gulf of Mexico, following that river a distance of 1,136 miles beyond El Paso, Texas; thence to a point on the Pacific Ocean, one marine league due south of the southernmost point on the Bay of San Diego. The total length of the northern boundary line is 1,833 miles. The Guatemalan boundary line was fixed by treaty 27 Sept. 1883 and 1 April 1895; and the Belize line by treaty signed 8 July 1893, and ratified 19 April 1897. The length of the southern boundary of Mexico is 642 miles.

By the treaty of Guadalupe-Hidalgo ratified 2 Feb. 1848, and the Gadsden treaty of 30 Dec. 1853, Mexico ceded to the United States 930,590 square miles of her territory, or 163,264 more than half. The first named treaty involved 362,487 square miles of domain now part and parcel of the United States as follows:

Texas, 265,780 square miles; Colorado (in part), 18,000; Kansas (in part), 7,766; New Mexico, 65,201; Oklahoma, 5,740. Under the terms of the second or Gadsden treaty the United States acquired 522,568 square miles, which are now held as follows: Arizona, 82,381; California, 157,801; Colorado (in part), 29,500; Nevada, 112,090; New Mexico, 42,000; Utah, 84,476; Wyoming (in part), 14,320. By virtue of the same treaty a later addition was ceded, consisting of 31,535 square miles to Arizona, and 14,000 to New Mexico.

## Topography

In the length of coast line the peninsula of Lower California leads with 1,864 miles, Yucatan following with 615, Sonora 524, Sinaloa, 317, Tepic and Jalisco 311, Veracruz 286, Guerrero 286, Oaxaca 255, Tamaulipas 249, Campeche 224, Chiapas 137, Tabasco 119, Colima 99, and Michoacan 81. The greatest length of the republic is from northwest to southeast, 1,942 miles; and the greatest width, east and west, is from the mouth of the Rio Grande to the mouth of the Rio Fuerte, 762 miles, and the narrowest is from the bar at Coatzacoalcos, on the Atlantic side, to San Francisco de mar, on the Pacific,— 134 miles.

Mexico, California and Tehuantepec are the principal gulfs on the Mexican coast, the first named being the largest in the world. In the commercial development of this continent they have performed and still perform a most important part. Mexico's great mass is the lofty Rocky Mountain plateau, which fills it nearly from ocean to ocean, leaving but a narrow strip of coast. Entering from Guatemala (where a spur connects with the limestone and coral table-land of Yucatan), the system trends west, forming a table-land 150 miles wide at Oaxaca, with a steep descent and slender coast on the Pacific, but a more gradual one by terraces to the Gulf of Mexico in Tabasco and Veracruz. This spreads out and stretches northward to the vast plateau of Anahuac, 4,000 to 8,000 feet high, where the oceanic relations are reversed, the Atlantic side being precipitous and the Pacific terraced. There is no single range corresponding to the Andes or northern Rockies; the so-called *cordilleras* are merely the outer escarpments of the plateau, though often far above its mean level. Loftiest of these is the Sierra Madre of the Pacific, traceable at a mean elevation of over 10,000 feet from Oaxaca to the United States. It skirts the western coast within from 60 to 70 miles of the entrance to the Gulf of California; thence onward a far wider coast land has silted up. Along the Gulf of Mexico are the correspondent cordilleras

of Tamaulipas and Nuevo Leon, 6,000 feet in mean elevation. The southern central plateau maintains its height of 7,000 to 8,000 feet with great persistency to within 40 miles or less of the Atlantic. Through Lower California is a similar ridge some 3,000 feet high. The plateau is not a level surface; railroad elevation north from the capital varies by 4,500 feet, declining northward; while the centre is intersected by short secondary ridges and valleys, mostly with the north-northwest trend. Most important of these is the Anahuac cordillera, surrounding the valleys of Mexico and Puebla; its culminating point is the Nevado de Toluca ("snow peak"), 15,163 feet. But across this, and generally confounded with it, is a newer transverse ridge from ocean to ocean, traced by five active or recently quiescent volcanoes and several extinct cones, among which are Popocatepetl 17,882 feet and Ixtaccihuatl 17,338 feet in the centre, southeast of Mexico City, and Orizaba, eastward bordering Veracruz state, 18,696 feet. On the Pacific side is Colima volcano, 12,989 feet; and the line runs out to the Revillagigedo volcanic islands. The sierras of Guerrero, Oaxaca, and Chiapas are nearly parallel to this.

The other high mountain peaks of the republic are: The Malinche, between the state of Tlaxcala and Puebla, 14,643 feet; the Coffre de Perote, Veracruz, 14,042; Ajusco, in the southern part of the Valley of Mexico, 13,075; Tancítaro, 12,661 and Petamban, 12,300, in Michoacán; Derrumbadas, 11,801, Ocelazin, 11,480 and Penal 10,744, in Puebla; Cempoaltepec, 11,139 Oaxaca; Lanitos, 11,021, Guanjuato; Tzirate, 11,022, Michoacán; Zumate, 10,994, and Navajas, 10,289, Hidalgo; and Laurel, 10,138, Aguascalientes. The mountains of Mexico are exceptionally picturesque and interesting, affording innumerable views beautiful in the extreme.

### Rivers

Mexico possesses comparatively few rivers, and of these not many are large and deep enough to be of commercial importance. Many of those marked on the map of the republic are either wholly or practically dry a part of each year. This is especially true of the northern half of the country. The most important rivers are: The Rio Grande (Bravo del Norte), which forms the northern boundary line of the republic for 1,097 miles, the Panuco, which rises in the mountains of the state of Mexico and empties into the Gulf of Mexico at Tampico, is 360 miles in length; the Papaloapan, the source of which is in the mountains of Oaxaca, and which crosses the state of Veracruz, emptying into the Gulf of Mexico at

Alvarado; the Coatzacoalcos, which also has its source in the state of Oaxaca, and crosses the state of Veracruz, emptying into the Gulf at Coatzacoalcos, its length being 186 miles; the Grijalva, which rises in Guatemala, crosses the states of Chiapas and Tabasco, to the Gulf of Mexico, is 327 miles in length; the Usumacinta, which also has its source in Guatemala, crossing the Mexican state of Tabasco and emptying into the Gulf a short distance south of Frontera, its length being 450 miles. Official reports state this to be "the most navigable river in Mexico."

The Tuxpan River, which has its source in the state of Hidalgo, crosses Puebla and Veracruz and empties into the Gulf at Tuxpan. It is navigable for small boats; the Lerma, 457 miles in length, which rises in the mountains of Tenango, in the state of Mexico, crosses Jalisco and Tepic and empties into the Pacific at San Blas; the Balsas, 428 miles long, the source of which is in Pueblo and which crosses Mexico, Morelos, Guerrero and Michoacán, empties into the Pacific at Zacatula, in the latter state; The Yaqui, 391 miles long, which rises in the Tarahumari mountains, in the state of Sonora, empties into the Gulf of California a short distance below Guaymas; the Fuerte, 335 miles long, which rises in the state of Chihuahua, crosses the state of Sinaloa and empties into the Gulf of California at Bocas de Ahome; the San Pedro, 298 miles; Nazas, 279; Ures, 260, and Sinaloa, 260.

## Lakes and Lagoons

The principal lakes of Mexico, none of which are large, are Chapala, in Jalisco, a beautiful body of water some 51 miles long and 18 miles wide, the shores of which have become a favorite summer resort for wealthy residents of Mexico City, Guadalajara and other parts of the republic; Patzcuaro (in Michoacán), around which there clusters a wealth of historic, artistic and poetic interest; Cuitzeo, in the same state; Xochimilco, and Texcuco, in the Federal District and state of Mexico; Tepancuapan, in Chiapas; Tequesquitongo, Coatelelco and Hueyapan, in Morelos; Catemaco, in Veracruz; Caivel and Carpintero, in Tamaulipas; Encantedo, in Tabasco; Bacular, in Yucatan; Uriria, in Guanajuato, and Meztitlan, in Hidalgo. The principal lagoons are the Terminos, in Jalisco and Michoacán; Tamiahua, in Veracruz; Madre in Tamaulipas; Mezcaltitlan, in Tepic; Coyutlan, in Colima; Tecpan and Coyuya, in Guerrero; Superior and Inferior in Oaxaca; Paras, Coyote and Agua Verde, in Coahuila; Guzman, Jaco, Patos, and Santa María in Chihuahua; Chalco, Xaltocan, San Christobal,



Mexico City, from Tower of Cathedral

Zumpango and Lerma in the state of Mexico; Meztitlan and Apan, in Hidalgo, and Santa Ana, in Tabasco. There are numerous other and smaller lakes and lagoons in the republic, which are of much local importance, but which do not appear on the ordinary maps.

### Valleys

The principal valleys of the republic are those of Toluca, Mexico, Cuernavaca, Puebla, Oaxaca, San Francisco and Orizaba, all of which are extremely rich in soil and most favorably situated as to climate and other conditions affecting their products, which include very nearly every article grown in other parts of the American continent.

### Climate

The chief natural glory of Mexico is its climate, which, though not as invigorating as that of some other countries, is one of the most delightful in the world. In few localities is there ever intense cold or intolerable heat. It is seldom that death results from freezing, and sunstroke is practically unknown. In the tropics, or hot country, the temperature varies from 77° to 82° Fahr., in the shade, while on the central plateau, which includes the capital city, it is much cooler in summer and warmer in winter than in the United States. In Mexico City the maximum summer temperature in the shade is 85°, and winter temperature 72°; in Puebla, 84° and 75°; in Oaxaca 94° and 83°; in Jalapa 89° and 87°; in Queretaro 90° and 80°; in Guanajuato 91° and 82°; in Pachuca 80° and 77°; in Saltillo 89° and 76°; in Merida 103° and 92°; in

Mazatlan 91° and 84°. The average night temperature in Mexico City from June to October is about 55°. The warmest months of the year in that city, are April and May,— the last two months preceding the beginning of the rainy season, which there extends from June to November. In the regions near the gulfs and the Pacific ocean, the rains are much heavier and more frequent, and begin earlier and end later. The average rainfall on the coasts is 44 inches and on the table-lands 24 inches. In Mexico there are but two seasons,— the rainy, or summer, and the dry, or winter. The temperatures of the spring and autumn months differ very slightly, and the seasons merge into each other quite imperceptibly. The nights are always cool, except in the hot country, where they are seldom uncomfortable, the gulf and Pacific breezes compensating for the heat of the day. There are no radical or sudden changes of temperature; no prolonged term of heat or cold or storm; and on the table-lands all seasons are so nearly alike that most persons wear clothing of the same weight all the year. Except in the northern states, artificial heat is seldom provided, either in homes or places of business, even in mid-winter.

In few other countries is to be found such diversity of climate as in Mexico, whose west coast littoral extends across 18 parallels of latitude, and where the altitudes of the towns and cities range all the way from 26 feet above the sea at Veracruz, to 8,760 at Toluca, each plateau or step in the ascent illustrating in its fruits, foliage and flowers the influence of every climatic phase and condition. The white peaks of Orizaba, Popocatepetl and Ixtaccihuatl look down upon a broad panorama of indescribable beauty to be seen only in this land of perpetual spring. The summer rains on the upper plateaus intensify the green of the verdure, increase the number and beauty of the flowers, develop the fruits, sweeten the atmosphere, and drive away disease. The sun's rays, being always perpendicular, in the middle of the day are very intense. In the shade, however, it is never uncomfortable.

### Flora and Fauna

The physical conformation of Mexico is most favorable to the development of a wonderfully rich and varied economic flora. In the hot lands or coast regions, from the sea level to an altitude of 1,500 or 2,000 feet, cocoanuts, cacao, vanilla, peppers, nutmegs, ginger, cloves and other spices and all the fruits of tropical countries are successfully and profitably grown; while sugar cane, coffee, rice, cotton, tobacco, hemp, oranges, lemons, limes, bananas,

mangoes, apples, peaches, papayas, pears, plums, figs, cherries, grapes, zapotes, pineapples, mameys, pomegranates, yams, sweet potatoes, Irish potatoes, most of the edible roots, and, in fact about all the varieties of fruits and vegetables grown anywhere are found and successfully cultivated in altitudes up to and including the valley of Mexico, 7,500 feet above the sea. Wheat, corn and most of the grains of commerce produce crops in some



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Cacao Trees in Mexico

of the states, twice or three times in a year,— notably in Veracruz, Tabasco, Chiapas, Oaxaca, Guerrero, Michoacán, Jalisco, Mexico. Fifty-two species of cereals and vegetables, 87 of fruits, 100 of odoriferous flowers, 56 of building woods, 21 of cabinet woods, 8 of gums, three of resins, 12 of forages and 113 of medicinal plants reach a high degree of perfection in Mexico.

Flowers of almost innumerable varieties, from the gorgeous orchid of quaint and curious form and wonderful combination of colors, to the modest daisy, violet and tuberose, grow wild, in extravagant profusion, all the year round, the range of altitudes meeting the requirements of all the members of the floral kingdom. The flower markets of Mexico City, which are chiefly supplied from the chinampas (gardens in the bed of the half-drained lakes of the neighborhood), are among the objects of interest most enjoyed by the visiting tourist, and they eloquently testify to the beauty and brilliancy of the Mexican flora. This country has been

deservedly named "the land of flowers," for everywhere and all the year there are flowers of every hue and color.

In the forests of the republic, especially in the tropical lands, are found many varieties of trees the timber of which possesses great value for building or cabinet purposes. Pine of several varieties, balsam, lignum vitæ, Spanish cedar, mahogany, oak, rosewood, mesquite, olive, palm, almond, fir, sesame, cedar, camphor, india rubber, copal, cacao, 12 species of dye woods and 17 varieties of oil-bearing trees are among the varied products of the country. The arboreal vegetation of the country embraces 114 different species of woods.

Included in the fauna of Mexico are the American lion or puma, jaguar, ocelot, wildcat, wolf, coyote, bear, wild boar, sloth, monkey, hare, rabbit, squirrel, armadillo, deer, beaver, otter, mole, marten, leopard, turtle, which are principally found in the sparsely settled mountains and in the forests of the tierra caliente. None of these are much hunted, the Indians of the country having little or no taste for this kind of sport.

In the tropics there are many varieties of rich plumaged birds, and song birds are found in all altitudes. Parrots and paraquites abound in the coast regions and are highly prized for their talking qualities and brilliant colors of green, yellow and red. Among the many species of song birds are the zenzontla or mocking bird, the clarin and the nightingale. The birds of prey include the eagle, hawk, turkey buzzard and owl. The cotorra, talking loro, humming bird, sparrow, blackbird, turtle dove, woodpecker, swallow, magpie, heron, falcon, kite and great numbers of others, which inhabit the forests or fields where there is abundance of insect and other food for their sustenance, are found in Mexico. In all localities where there are fresh water lakes, lagoons, ponds or rivers there are great numbers of wild ducks and geese, and in the forests the wild turkey abounds. Wild bees are numerous, and the Indians derive quite an income by securing their honey and marketing it in the cities and towns. Of domestic or barnyard fowls the number and variety are very extensive, and their consumption by the people of the country is enormous.

The waters of the Mexican gulfs, lakes, and rivers are well stocked with many varieties of fish of excellent quality, the most prized being the red snapper. The markets of Veracruz, Tampico and other coast cities daily display a tempting supply and variety from the gulfs, the Pacific and the accessible rivers, and large quantities are shipped to inland points by railway, in refrigerator

cars. In the immediate vicinity of Tampico many tarpon of large size are caught.

Of reptiles there are many varieties, both venomous and harmless, especially in the southern forests. In the first named class are included boas, covals, and rattlesnakes. There are many varieties of scorpions, tarantulas and lizards, some of the latter being so large as to be utilized by the natives as an article of food.

## HISTORY OF MEXICO

### Pre-Conquest Period

THE history of Mexico naturally divides itself into three distinct parts, aboriginal Mexico under the domination of its native Indian rulers, from the border land of prehistoric times to 1521; Spanish occupation from 1521 to 1821; and independent Mexico from 1821 to the present.

A score of distinct aboriginal tongues and more than 100 dialects still spoken within the confines of the Mexican republic are evidence of the presence of numerous races that overran the country at various periods during its prehistoric existence. These early races seem to have had considerable influence upon the traditions, mythology and customs of the people who followed them into the country. From the confused movement of the shadowy peoples of the past stand forth the forms of several more or less distinctly cultured races whose written and traditional records, legends and folk-lore reach back to the dim border land beyond which all is mythical. During the early semi-historical part of this period the great Nahua race, beginning its many years of wandering from the north, crossed the Mexican boundary in the sixth century and continued southward. These migrations were participated in by numerous tribes or nations. The first of these, the Toltecs, came from the land of Old Tlapallan under the leadership of their high priest and chief, Heumatzin, he of the big hands, and arrived at Tulancingo (a short distance north of Mexico City) in 720, after 176 years of wandering. Soon afterwards they established populous centres at Tula (San Juan), Teotihuacán, Cholula and numerous other places and extended their power over a wide reach of country. They are said to have been a highly civilized race, to have been builders of great and handsome cities and to have extended organized commerce for hundreds of miles beyond their own territory which, at the height of their power and pros-

perity, stretched from the Gulf of Mexico to the Pacific and far southward to the border of the domains of the Maya of Yucatan, Chiapas and Campeche. They had a settled form of government and complicated, far-reaching codes of laws, which included military, political, social and religious regulations; and these, in their turn, were supported by racial customs and dogmas.

While the Nahua held the central portion of what is modern Mexico, the Maya and other kindred races occupied the south, stretching from Campeche, Yucatan and Chiapas, south and west to the Pacific and into Guatemala, where they established a civilization rivaling that of the Toltecs. Between the Maya on the south and the Toltecs on the north lay the Zapoteca and the Mixteca, almost as far advanced as they in the arts and sciences and the principles of government. All four peoples were skilled workers in metals and excellent makers of pottery and woven fabrics. They recorded their histories, traditions, religious formulas, tribute rolls and important events in complicated hieroglyphics, which varied with the different races. They were good agriculturists, excellent builders and organizers and they maintained extensive and well apportioned armies and systems of public instruction. All education was in the hands of the priests and administered from the temples, thousands of which, rising from high, truncated, pyramidal structures, covered the land. These temples were specially numerous and of notable magnificence in the Aztec land and Yucatan.

Civil wars, internal dissensions, famine and plague are given as the causes of the disruption of the Toltec empire which came to an end in 1116, after nearly 400 years of existence. A part of the Toltec population is said to have migrated southward and to have entered the land of the Maya. It is certain, however, that many remained behind and lost their identity in the Chichimeca and other less cultured races who occupied the Valley of Mexico and surrounding country. From this union sprang the famous Texcocans, whose capital, Texcoco, on the lake of the same name, preserved the civilization of the early Nahua and finally became the most noted centre of culture in the Mexican empire.

The Aztecs, Texcocans, Tepanecas, Chalcos and Tlaxcalans are the most notable of the Nahuatl tribes who took possession of the country deserted by the Toltecs. Of these the most important are the Aztecs, who began their wanderings from Aztlán, their old home in the north, about a century after the Toltecs. Six hundred years later they arrived in the Valley of Mexico, where they eventually, after many struggles and privations, established them-

selves on two little islands in Lake Texcoco, and founded their capital, Tenochtitlán, the Place of Tenoch, their priestly leader and mighty warrior, or Mexico, the Place of Mexitli, their war god.

The Aztecs prospered, grew in numbers and extended their power over the Chalcos and other tribes bordering on the lakes of the Valley of Mexico and, forming an alliance with the Texcocans and the Tepanecas, carried their conquering arms from the Gulf of Mexico to the Pacific and, from some distance north of Mexico City, southward past the isthmus of Tehuantepec almost to the border of modern Guatemala, where they encroached upon the land of the Maya. The creation of this vast empire which, in extent and power, outrivalled that of the Toltecs, was due to the skill, intelligence, executive ability and warlike prowess of a line of kings which began with Acamapitzin, Prince of the Reeds (1376–1404), 50 years after the founding of Tenochtitlán. The other Aztec rulers in succession, up to the arrival of Cortés, were: Huitzilihuitl, Hummingbird's Feathers (1404–17), Chimalpopoca, Smoking Shield (1417–27), Ixcoatl, Obsidian Knife (1427–40), Moctezuma I, Wrathy Chief (1440–69), Axayacatl, The Fly (1469–81), Tizoc, Lame Leg (1481–86), Ahuizotl, Water-rat (1486–1502) and Moctezuma II (1502–20), all of whom worked zealously for the upbuilding of the Aztec empire and the beautifying and extension of their capital.

From the beginning of the reign of Moctezuma II Spanish navigators had been exploring in the neighborhood of the Mexican coast and several had touched on the mainland of Yucatan and Campeche. In 1519 Hernán Cortés, inspired by the dream of conquering a great and rich land, of which reports had been brought to Cuba, set out with a small military force on his daring expedition to the uplands of Mexico. On the way he defeated the Tlaxcalans, an independent nation, and the Cholulans, who formed a semi-dependent province of the Aztec empire. From these he recruited a considerable native army, with which he continued his march to Mexico City, where he was reluctantly received by Moctezuma II and quartered in one of the royal palaces. He finally succeeded in making a prisoner of the Aztec ruler, who was killed a short time afterwards (30 June 1520) either by the Spaniards or by the Mexicans themselves. The presence of the Spaniards in the city, the death of the emperor and the profanation of the shrines of their deities enraged the Aztecs to such an extent that they rose against Cortés and he was forced to leave the city by night. In the retreat he lost his cavalry, artillery and most of his infantry. After recruiting a new

army and obtaining additional war equipment, Cortés returned and laid siege to the City of Mexico which he captured (13 Aug. 1521) and continued the conquest of the domains of the Moctezumas.

### Under Spanish Rule

Immediately after the surrender of Tenochtitlán the government of Mexico fell into the hands of the conquistadores who, being purely military governors, administered the affairs of the land by means of military law. Gradually the large cities were granted local government similar to that of Spain and the province was divided into districts controlled by the central government in Mexico City. In 1528 auditors (*oidores*) were introduced to keep a check on the Captain General, Cortés. They soon succeeded him and continued to govern the country until 1535, when Antonio de Mendoza became the first viceroy. He was a very earnest and capable man and at once proceeded to replace with an orderly and settled form of government the hap-hazard methods of the oidores and military leaders.

Spain monopolized the trade of Mexico, or "New Spain"; commerce to and from the colony could be carried only in Spanish bottoms; nothing was permitted to be grown in Mexico that might in any way come into competition with products from Spain. Only native-born Spaniards could hold office under the government in New Spain. The establishment of manufactures of all kinds was discouraged or prohibited. Yet Spain gave her colonies a strong government and one that was thoroughly understood by the mass of Indians and mestizos who composed the greater part of the population of Mexico, for it was much like the kind they had been accustomed to for centuries under their native rulers. The encouragement of literature and art, the beautifying of the cities and towns, the extension of great highways of commerce, the improvement of harbors, the establishment of high schools, colleges and a provincial university and the practical eradication of the native religion with the human sacrifices were far-reaching benefits which Spain bestowed upon Mexico. But the evils of her administration outran the good — for example, in the establishment of peonage and the concentration of the Indians in centres, towns, camps or ranches under the pretence of civilizing and Christianizing them. The masses of the population, their aboriginal laws and codes of morality gone by the board, soon lost their pride of race and descended to a condition of slavery bringing with it debauchery, a loss of interest in life and

a consequent loss of ambition. These and scores of other abuses created discontent throughout the viceroyalty, which was destined to show itself in vigorous protests and insurrection against Spanish authority. An unsuccessful revolutionary plot in the capital in 1808 was followed by the uprising of Hidalgo, the patriot priest of Dolores, on 16 Sept. 1810. Hidalgo, after a wonderfully successful initial campaign which brought him, with an army of 100,000, almost to the gates of the capital, was finally defeated, captured and executed the following year. The war of liberation dragged on with varying success until 1821, when the life of independent Mexico began.

### Independent Mexico

The first government of independent Mexico consisted of a council of six, with Gen. Augustín Iturbide, the commander of the revolutionary army, as president. On 19 May 1822 Iturbide was proclaimed emperor; and on 21 July he and his wife were crowned in the cathedral of the capital. But dissensions soon set in and Iturbide was forced to abdicate and to leave the country. On returning to Mexico in 1824, he was arrested, tried and shot as a traitor. Then followed many kaleidoscopic political changes in which the personal ambition of military leaders played the foremost part.

Santa Anna, who became President in 1833, was looked upon as a good soldier, took the field against the Texas revolutionists with an army of 6,000 trained men. Successful at first, he was defeated in 1836, captured and taken to the United States, but was allowed to return to Mexico the following year. For more than a generation, from the first days of the republic to the middle of the 19th century, the figure of Santa Anna appears ever in the foreground of the political life of Mexico guiding the destinies of the nation or watching political moves from either voluntary or forced retirement. Shortly after his return from the United States the French government sent a squadron to Vera Cruz to enforce the payment of claims against Mexico held by French citizens. Santa Anna, who had gone into one of his periodical retirements, came forth and placed himself at the head of a force to oppose the French, who finally withdrew. Santa Anna claimed the honor of having driven them from the country. This claim and the fact that he lost a leg in the encounter, made him once more a national figure and a popular hero, although Mexico had been forced to comply with the French demands.

Bustamante, recalled from exile, became President in 1837, on the outbreak of the revolution in Texas. The struggle between ambitious military leaders became more intense. Santa Anna, Parades, Bustamante, Farías, Herrera, Nicolas Bravo and others played their several parts on the constantly changing stage. The admission of Texas to the American Union as a State 29 Dec. 1845 roused the resentment of Mexico against the United States to a high pitch. James K. Polk, who succeeded Tyler as President of the United States, was an ardent expansionist and included in his plan of expansion the acquisition of California, Arizona, and New Mexico, then Mexican territory. Claims amounting to several million dollars were held by American citizens against the Mexican government, which was unable to meet them. Polk proposed to settle these claims in exchange for Mexican territory, paying in addition to Mexico $25,000,000 in cash. In November 1845, John Slidell was sent as diplomatic representative to Mexico City, with instructions to press the matter of the cession of Mexican territory to the United States. But the Mexican authorities, having learned in advance of Slidell's commission, did not receive him. Polk was ready to ask Congress to declare war against Mexico in May 1846 when the news reached Washington that armed Mexicans had already crossed the border and killed a number of Americans. War was declared against Mexico, 13 May. General Taylor, in command of American forces on the Rio Grande, was ordered into Mexico. In September 1846, he defeated a Mexican army and captured Monterey and, on 22 February, he fought a drawn battle at Buena Vista (Angostura). A month later Gen. Winfield Scott arrived at Vera Cruz, which he captured, 29 March, and began the long and toilsome march toward the upland plateau and the capital of Mexico, which he reached six months later. After the capture of Molino del Rey, Churubusco and Chapultepec, fortresses defending the capital, Scott's army entered the City of Mexico. In the meantime American forces had taken possession of California and New Mexico without opposition. In February 1847, a treaty was signed at Guadalupe Hidalgo, near the Mexican capital, between representatives of Mexico and the United States by the provisions of which California and New Mexico were ceded to the United States.

Santa Anna, who had again become dictator of Mexico while the country was at war with the United States, retired to Jalapa, and General Herrera became President, 3 June 1848. He was

succeeded (January 1851) by General Arista, who was forced out of office by Santa Anna.

A new constitution for the republic which became law on 5 Feb. 1857 figured in every conflict during more than half a century. Comonfort repudiated it, thus estranging his own following without gaining the support of his opponents. He was forced to flee the country, and his departure gave rise to internal dissensions not finally settled for years. Benito Juárez, president of the Supreme Court, claimed the presidency in accordance with the provisions of the constitution. War divided the people and devastated the land and the reactionary party forced Juárez from the capital. In the midst of all this civil trouble, a real danger threatened the republic from without. In 1861 England, France and Spain entered into an agreement known as the Treaty of London, by which they were to send a three-fold fleet to Vera Cruz to demand of Mexico guarantees for the payment of her foreign debt and for the safety of their subjects in Mexican territory. This fleet, which appeared at Vera Cruz on 8 Dec. 1861, captured the port and proceeded to Orizaba, where a conference was held with Juárez; who agreed to comply with the demands of the powers. England and Spain at once withdrew their troops from the country. But the French, who had a secret understanding with the Mexican reactionary party, at the head of whom was Miramon, who had disputed the presidency with Juárez, remained in Mexico with the avowed purpose of settling its social and political difficulties. The French army soon began its march toward the uplands; but it was defeated before the walls of Puebla and forced to retreat to Orizaba.

The Archduke, Maximilian of Austria, and his consort, who had been selected by Napoleon III as emperor and empress of Mexico, arrived in Vera Cruz 24 May 1864. In the capital they were welcomed and crowned with great ceremony. The protest of the United States compelled the withdrawal of French troops from Mexico, and Maximilian, left to his fate, was compelled to surrender at Queretaro in 1867. He was tried, found guilty of treason to the Mexican people and shot on the Hill of the Bells near Queretaro together with his two generals, Miramon and Mejia, 19 June 1867. The concerted action of the Army of the North under Escobedo and the Army of the East under Porfirio Díaz defeated the Imperialists; Mexico City surrendered to Díaz 21 June, two days after the execution of Maximilian; and on 15 July Juárez returned to the capital amid the rejoicing of the populace. But opposition to the Juárez government soon developed and

his administration was troubled by constant uprisings and disaffection. Juárez died suddenly 19 July 1872, shortly after he had been re-elected President. He was succeeded by Sebastian Lerdo de Tejada, who served one term and was forced out of office shortly after his re-election by Gen. Porfirio Díaz who defeated the Lerdist party at the battle of Tecoac, marched upon the capital and was there proclaimed provisional president, 24 Nov. 1876, and later constitutional president. At the expiration of his term of office, 30 Nov. 1880, he was succeeded by Gen. Manuel González, who continued the Díaz policy of encouraging the construction of railways and increasing the efficiency of the rural police charged with the protection of the country from revolutionary and robber bands.

Díaz succeeded González in the winter of 1884 and, for more than a quarter of a century, he continued to be the one great power in Mexico. He found the country in debt and the income of the administration inadequate to meet the demands on it. He increased the revenue of the nation over 400 per cent; he built railways, highways, roads and harbors; he drained the Valley of Mexico and made the pest-ridden coast towns places of resort. He encouraged foreigners to settle in or invest in the country and to contribute their part to his program of expansion and development; and he created a credit for the nation and steadily increased and improved it. He introduced system and encouraged honesty in the public service and prevented, to a very great extent, malversation of public funds, which had been so noticeable during previous administrations, by the introduction of a rigid and modern system of accounting and by holding the heads of the departments accountable for the funds passing through their hands. With Díaz the Indian and mestizo elements, constituting fully 85 per cent of the population, began to come into their own. Thus a new social life was created in Mexico under his régime, and in it the mestizo, for the first time, began to play a prominent part.

Díaz found public instruction neglected and practically nonexistent and he set to work to remedy this defect. Training schools for teachers were established and the higher schools and colleges were increased and improved with a view to supplying, through them, the teaching body for new primary and secondary schools. Though lack of funds hampered this work, the results achieved bore fruit in the rapid increase of the standard of intelligence in the larger towns and cities. Under Díaz the resources of the country were developed; commerce threw off its provincialism and became national and international, and new

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industries sprang up throughout the land. But, with a government which had absolute control of the affairs of the country so long as that of Díaz, abuses were bound to creep in. About the President had grown up a strong personal party the members of which, while professing intense admiration for him and his government, succeeded in enriching themselves, their relatives and friends through concessions and privileges secured through their close connection with the administration. The spread of public instruction and the rise of the Indian and mestizo to public prominence introduced into the political equation a new and restless element which Díaz had constantly, throughout his long régime, to curb, control and discipline. The discontent increased; Mexican exiles in the United States used every means in their power to hasten the overthrow of the man they characterized as autocratic and tyrannical. Ramón Corral, the vice-president, who was looked upon as the leader of the sinister influence at work in the party surrounding the president, was singled out as the special object of attack of the anti-government agents. Díaz, in the face of the impending storm, supported Corral, who was re-elected in 1910. During the month of September 1910, the one-hundredth anniversary of the declaration of Mexican independence was celebrated throughout the republic with great pomp and ceremony and special representatives of foreign nations gathered in the capital to lend dignity to the occasion. But scarcely had the month of national rejoicing ended when political unrest began to show renewed activity. Francisco I. Madero, who had presented himself as a candidate for the presidency in opposition to Díaz and had been arrested on the charge of sedition and finally released from prison and ordered to leave the country after the elections had been held, furnished the necessary leader to the exiles in the United States and their many sympathizers in Mexico. The active revolutionary propaganda already begun was intensified and agents of the insurgent party spread their doctrines throughout Mexico and induced uprisings in Vera Cruz, Puebla, Chihuahua, Durango and other cities and towns of the republic; and, as Madero crossed the border to head the insurgents, similar outbreaks took place south of Mexico City while revolutionary bands gathered in force in the north near Torreon, Gómez Palacio and Parral. The inauguration of Díaz as President 1 Dec. 1910 increased the revolutionary centres and quickened their activities, thus compelling the government to weaken its strength by distributing its forces over a large and constantly increasing area of territory. Radical changes were effected in the

Díaz cabinet and attempts were made to meet the demands of the revolutionists, as American troops were ordered concentrated along the Mexican border; for this move was taken in Mexico to mean a threat of intervention. The government offered to enter into peace negotiations with the insurgents, but attempts made to this end proved abortive and were suspended 6 May. Juárez fell to the insurgents 10 May, and Díaz, urged to save the country from further bloodshed and the danger of intervention, resigned, 25 May, and was succeeded in office by Francisco de la Barra, secretary of foreign affairs, as president ad interim pending an election. Two weeks later Madero entered the capital where he was enthusiastically received. So powerful was his influence that the de la Barra administration was forced to consult him in every important move made. On 15 November Madero was unanimously elected President of Mexico; but scarcely had he assumed office when opposition began to develop and revolutionary intrigue to show itself within his own party. Zapata revolted in Morelos and Gen. Bernardo Reyes attempted an unsuccessful insurrection. Gen. Pascual Orozco, one of the foremost revolutionary leaders, rebelled and captured Juárez 12 Feb. 1912. Gen. Félix Díaz took Vera Cruz, but was himself captured, tried and condemned to be shot — a sentence which was commuted to confinement in the penitentiary near Mexico City. In the meantime Madero found himself unable to control the turbulent characters who surrounded him, to establish a stable government or to carry out the promised reforms.

General Mondragón, backed by his own troops and the students of the Military Training School at Tlalpam, a suburb of the capital, rose against the government, 9 Feb. 1913, marched to the military prison and set free General Reyes, and from there to the penitentiary and liberated Gen. Félix Díaz. Practically unopposed the three generals entered the capital, where Reyes was killed in an attack on the National Palace. The revolutionists seized The Citadel, a strong fortress and ammunition depository, while the Madero forces took possession of the National Palace, Chapultepec and other points in and around the city. Both factions bombarded one another almost continuously for 10 days, when Gen. Victoriano Huerta, commander-in-chief of the government forces, brought the conflict to a dramatic close by the seizure of Madero and Pino Suárez, the vice-president, who were forced to resign their respective offices. Pedro Lascurain, minister of foreign relations, succeeded to the presidency. He appointed Huerta his minister of foreign relations and resigned in his favor.

Thus, in one day, Mexico had three presidents. On the morning of 23 February Madero and Pino Suárez were murdered, presumably by agents of the Huerta government. For this act, Venustiano Carranza, governor of Coahuila, disavowed the new government and issued the Plan of Guadalupe which called for reforms in the administration, equitable taxation, extension of the educational system and the solution of the land problem (March 26). President Wilson dispatched John Lind to Mexico City as his personal representative with a view to bringing the opposing parties together; but Huerta's refusal to be eliminated as a presidential candidate and his arrest and imprisonment of 110 congressional deputies and the forcible dissolution of Congress (10 and 11 October) made any compromise impossible. A new election held on 26 October, under pressure, resulted in the selection of Huerta as President. The new congress, which met on 15 November, in view of a protest from Washington, declared void the election of President and Vice-President but confirmed Huerta in the office of Provisional President. The Constitutionalists determined to make no compromise with Huerta, and the war went on. Villa took Juárez 15 November; other important places fell and, early in 1914, Villa captured Ojinaga, after the Federal garrison of 4,600 had retreated across the American border. Then turning southward he took Torreon in April, while Mazatlán and Tampico surrendered to the Constitutionalists in May, and Carranza set up his government in Saltillo.

Huerta found himself in constantly increasing difficulties on account of his defiance of the United States. These difficulties had culminated when sailors from the U. S. S. *Dolphin* had been arrested in Tampico 10 April and marched through the city under armed guard. For this insult Admiral Mayo demanded that the Mexican government should order a salute to the American flag. This Huerta refused to concede; and President Wilson laid the matter before Congress 20 April, requesting authority to use the forces of the nation to enforce Mayo's demand. While Congress was debating this request American marines were forcibly landed in Vera Cruz to prevent the entrance at that port of a shipment of arms from the steamer *Ipiranga*. At this juncture Argentina, Brazil and Chile, known as the A. B. C. powers, offered to serve as mediators. The offer was accepted and the diplomatic representatives of these powers at Washington met at Niagara Falls, Canada, 20 May to 24 June, without being able to find a solution for the troubled conditions in Mexico. On the day they adjourned Gonzáles took Zacatecas and, two weeks later, Obregón entered

Guadalajara; and in July, San Luís Potosí, Manzanillo and several smaller places fell to the Constitutionalists. Huerta, forced to resign, 15 July, was succeeded by Francisco Carbajal, minister of foreign relations, who at once entered into communication with the Constitutionalists and resigned in favor of Carranza, 13 August. Two days later Obregón took possession of the capital, where Carranza arrived on 20 Aug. 1914.

With the elimination of Huerta and the success of the Constitutionalists, bitter dissensions appeared in the heterogeneous elements composing the party. A convention of generals called to meet in Mexico City on 1 October served only to intensify the trouble and the convention was moved to Aguascalientes, where, dominated by Villa, it disallowed the claims of Carranza and elected General Gutiérrez Provisional President. It was also decided to march upon Mexico City and compel Carranza to bow to the will of the Convention. In the face of this threatened danger, the latter went to Puebla and, from there, to Vera Cruz on the withdrawal of the American forces from Mexico 23 November. Zapata and Villa at once occupied the capital and Gutiérrez set up his government there (3 December). In January 1915 the Convention, disowning Gutiérrez, proceeded to govern Mexico City in its own name; but the approach of Obregón with a strong force compelled the Convention to abandon the capital, which was occupied (28 January) by the Carranza commander, who in turn was forced to retreat before a Zapatista horde, 10 March. Two weeks later Villa recognized as Convention Provisional President Gen. Roque González Garza.

One of the dramatic incidents of the year was the siege of Naco, Sonora, by General Mayortena. Five Americans were killed and 50 or more wounded by shots coming across the border. Washington warned both the contending parties to refrain from firing into American territory. Early in January General Scott, representing the American government, and Villa held a conference at which it was agreed to withdraw the contending forces from Naco. In the meantime the Convention party was faring badly in the north. Guadalajara fell to Carranza and Villa was defeated at Celayo in March. Other disasters followed and finally Washington notified the Constitutional and Convention parties, 2 June, that unless peace were restored soon, the United State would be compelled to support some man or group of men capable of bringing order out of chaos. Meanwhile raids were being frequently made across the Texas border by bands from Mexico and finally, on the night of 9 March, 1916, an armed band

of Villistas attacked Columbus, N. M., killing eight soldiers and a number of civilians. Washington at once acted, 17 March, and sent into Mexico 12,000 troops under General Pershing with orders to take Villa dead or alive. Carranza refused a request from the American government for permission to ship, over the Northwestern Railway, supplies to Pershing's forces which were finally compelled to come to a halt at Parral, where several American soldiers were killed and others wounded in a surprise attack.

In April General Scott, Chief of Staff, who had been sent to the Mexican border to report to Washington on the situation, held a conference with General Funston, commander of the American forces on the frontier, and General Obregón, Mexican Minister of War. The latter insisted on the withdrawal of the American punitive expedition from Mexico, and this was conditionally agreed to, 2 May. Carranza, charging the American government with bad faith and asserting that the presence of United States troops in Mexico proved a constant source of irritation and weakened the hands of the Mexican authorities, refused to ratify the agreement. Washington replied by reviewing the course of events in Mexico and charging that the Mexican government apparently did not wish to see the border raiders captured. On 18 June the American militia was ordered to the Mexican border two days after General Treviño had been enjoined by Carranza to prevent the movement of the Pershing expedition in any direction except homeward and to oppose the entrance of further American troops into Mexico. In pursuance of this order an American force of some 90 troopers was attacked at Carrizal and a number of officers and troopers killed and 17 taken prisoners. On a peremptory demand from Washington the latter were released, 22 June, 1916. Carranza began to show a more friendly front, and proposed the naming of commissioners by the American and Mexican governments to consider the issue between them, 12 July. This proposition was accepted and Luís Cabrera, Minister of Finance, Ignacio Bonillas, Minister of Communications and Alberto Pani, head of the National Railways, representing Mexico, met in New London, Conn., with Franklin K. Lane, Secretary of the Interior, Judge George Gray and Dr. J. R. Mott. After many subjects had been discussed Carranza declined to approve any form of agreement, and finally the troops of the United States were withdrawn from Mexico without having accomplished any definite result.

A constituent assembly whose members were chosen at elections supervised by the Carranza army met at Querétaro. That assembly made radical changes in the constitution of 1857 which

were promulgated on 5 Feb. 1917 and went into operation 1 May 1917. A congress was elected and began its sessions on 15 April 1917, on which occasion Carranza declared that the nation would continue to be neutral in the European conflict.

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## GOVERNMENT

The constitution of Mexico is based upon that of the United States which it very much resembles. The republic is formed of free and sovereign states which, for administrative matters concerning the interests of the nation as a whole, are united under a federal government. In virtue of the constitution of 5 Feb. 1857, the national power resides in the people, who are the source of all public authority. The administration of the affairs of the country is carried on by the national government, for the federation, and by each state government for its own state. But no state law may conflict with the general good as expressed by the laws of the federation.

Slavery is prohibited by the constitution and all persons born in the republic are free and equal in the eyes of the law, and every one has a right to freedom of thought, profession and occupation. In so far as it is consistent with private rights and the exigencies of state, the press is free. In Mexico one may publish what he pleases, for there is no press censorship; but the citizen

and the government are protected by libel laws. Newspaper, magazine and other presses cannot now, as formerly, be confiscated as instruments of crime.

The right to associate together for any lawful undertaking, business or enterprise, and the complete individuality of every law-abiding citizen of the republic or resident therein are recognized and all may leave or enter the country without passport.

Mexico being a republic, hereditary honors and titles of nobility are not recognized and no one is permitted to accept or wear them unless by special act of Congress.

Arms may be carried for lawful personal defence in certain parts of the country, whereas in others a permit to do so must be obtained; for the law recognizes that in mining camps, wild mountainous regions and unsettled parts of the republic, arms are necessary for self-protection, and here a permit is not exacted. Search without warrant is prohibited, and a policeman may not enter a private house without authorization from the police court, unless it be in pursuit of a well-known criminal or one caught in the act of breaking the law.

Privileged tribunals such as were customary during the Spanish occupation of the country are strictly prohibited; and every man, be he priest or layman, citizen or administrative officer of the government, is ruled and governed by one common law. The passage of laws contrary to the interests of the nation is prohibited, and no treaties can be made with foreign countries for the extradition of political offenders. According to the constitution and the law of the land offences against law and order are divided into two great classes, civil and criminal. No one may be imprisoned for offences coming under the first of these heads. This provision includes debts and other monetary obligations, provided there is nothing criminal about their contraction. A person once arrested must be brought to trial within three days and just cause shown for his detention, or he must be set free. Whipping, torture, mutilation and other punishments of a like nature, common enough in previous periods of the history of the country, are declared contrary to law. All punishments except those of a correctional nature must be administered by judges of the criminal courts. The death penalty is practically never exacted in Mexico in times of peace; it is stipulated in the constitution, however, that it may be applied in cases of high treason, premeditated murder, parricide and highway robberies; but never for political offences, except in time of war. In practice, however, about the only cases in which it is exacted, in normal times,



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are those of offences of a most serious nature against military authority. In all legal actions one may appeal from a lower to a higher court until the supreme court of the nation is reached and gives its decision, which is final. But in cases of the death penalty, an appeal may be made to the clemency of the President of the Republic. Once a man has been tried and acquitted he cannot be tried again for the same offence.

In conformity with the principles of democratic government no spying upon the privacy of the people of the land is permitted and, on the same principle, all private correspondence is declared inviolable.

The quartering of soldiers upon private individuals in time of peace is prohibited, and even in time of war it can be done only in conformity with certain regulations of Congress and through special orders issued to fit the exigencies of the occasion.

Patents may be issued for a certain stated time on inventions of use to mankind, although the constitution states that no monopolies shall exist in the country except such as the government may take to itself for the general good of the nation; as, for instance, the coinage of money and the control of the postal system.

In the case of serious internal disorder of whatever character, which threatens the safety of state or government, the President has the right to suspend the constitutional guarantees; as he also has in the case of foreign invasion. But this can be done only with the consent of his cabinet and Congress, or of the congressional committee when the Congress is not in session.

All children born of Mexican parents, whether in Mexico or in a foreign land, are, in the eyes of the law, Mexican citizens; and foreigners may become Mexican citizens by naturalization by making application to the department of foreign relations, provided they have resided five years in the country. All persons acquiring land in Mexico, become by virtue of this acquisition Mexican citizens, unless they distinctly state in their deed of acquisition that they reserve their right to the citizenship of their native land. One of the radical changes of the Queretaro convention (31 Jan. 1917) is the provision that only Mexican citizens, by birth or naturalization, may acquire landed properties or water rights or obtain concessions to exploit mines or combustibles; but the state may concede such right to foreigners who appear before the secretary of foreign relations and agree to be considered as Mexicans, in so far as the titles involved are concerned, and agree not to invoke, in regard to the same, the protection of their respective governments, under penalty, for violation of these provisions, of losing the titles thus acquired, which automatically revert to the nation. All Mexican citizens, whether native born or naturalized, are liable to military service. All persons resident within the republic are guaranteed the protection of the laws of the land.

The state government is divided into three branches, executive, legislative and judicial. The chamber of deputies and the senate, constituting the Congress of the union, are the legislative bodies, and by them alone can laws for the government of the country be enacted. Two sessions of Congress are held each year. The first, which begins on the first day of April, lasts from two to two and a half months; and its primary business is to audit all accounts of the previous year and to arrange the estimates for the incoming fiscal year. The second, which begins on 16 September, lasts for from three to four months. The law provides for the election of a President of the Republic who shall serve for a term of four years and shall not be re-elected, and a cabinet composed of the following departments: Fomento (promotion), Foreign Affairs, Interior, Justice, Finance, Communications and Public Works, and War and Marine.

The Constitutional party, recognizing that the constitution of 1857, with the various amendments thereto, was unsuited, in certain important respects, to the conditions under which the Mexican people live, decided to make such changes in it as seemed necessary for the welfare of the nation. To this end a convention was held in Queretaro (December 1916). After two months' delibera-

tion, it closed it labors on 31 Jan. 1917, having reformed, in a radical manner, a number of the most important sections of the basic constitution. According to these changes, the office of Vice-President of the nation is done away with and the filling of that of President, in case of the death or absence of the chief executive of the nation, is left in the hands of Congress. The age of compulsory primary education is raised to 15 years and all parents or guardians are under obligation to see to it that their children or wards receive primary, secondary and military education. Instruction in all government schools and in all primary private schools must be laic, and no ministers, priests or officials of religious organizations or societies may establish or own schools or teach in Mexican schools. This abolishes the church schools which, before the revolution of 1910, ministered to fully two-fifths of the educational needs of the country. To make up the deficiencies in educational facilities thus caused, the new reforms in the constitution declare it obligatory upon all agricultural, mining and industrial companies, resident outside of towns, to establish and maintain schools for the education of the children of the people in their employ or resident on their property. All schools, whether official or private, must submit to official inspection and follow the government program of studies.

The constitutional amendments of 31 Jan. 1917 provide for the subdivision of large landed estates, aiming in this way to solve the land problem, which formed one of the causes of the revolution of 1910. Each state or territory is empowered to fix the largest amount of land which any person or company may hold; and all landed properties in excess of this amount must be subdivided and sold off within a certain stated time, and in accordance with official regulations, otherwise they are subject to confiscation. One of these conditions provides that at least 20 years shall be allowed to the purchaser in which to acquire property rights by making stated yearly payments. During this time no mortgage can be placed on the property thus acquired and the interest charged cannot be greater than five per cent. No lien of any kind can be placed upon homestead properties nor can they be seized for debt or other causes. In theory all land, minerals and other resources of the country are the property of the nation; and this position is maintained by the constitutional amendments of 1917, and the theory itself is put forward as a justification for the subdivision, by order of the legislature, of large landed estates and the national control of oil, mineral and water rights, with a view to the more equal distribution of the wealth of the nation

and the encouragement of small landed proprietors. To hold mining properties it is necessary to work them; and no company may acquire and retain possession of more land than is actually necessary for the carrying on successfully of the business of the concern, whether it be mining, agricultural or industrial.

There is complete separation of church and state in Mexico (since 1873); and the reforms made in the constitution in 1917 reaffirm with great emphasis the fact that the church, of whatever creed or denomination, is constantly under the most strict government inspection and that all ecclesiastical buildings, lands and



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A Fiesta in Guadalupe, Mexico

other property belong to the nation, which extends their use to the church. So, therefore, no religious order or denomination can acquire landed or other property or mortgages on the same. This prohibition extends to school and college buildings, asylums, charitable institutions and residences of ministers and priests and even to the property collected within the walls of the churches and other ecclesiastical buildings. Gifts of movable property may be made to the church; but even these at once automatically become the property of the nation. Every church or religious society occupying property must elect an official head to represent it before the government and to become responsible for the national property in its possession. All ministers of whatever cult must be Mexican by birth. The provisions of the reforms made in the constitution in 1917 shut out of Mexican religious institutions fully 2,500 Spanish priests of the Catholic Church alone, hundreds of French priests, employed principally in schools

and colleges, and the Protestant ministers, mostly American, who had established numerous churches and opened many schools throughout the land. While all religions not inimical to the interests of good government and the laws of the land are allowed to exist and to exercise their functions in Mexico, yet all public religious observances and ceremonies must be carried on within the church property and are subject to official inspection and regulation. The law does not recognize the personality of any sect. The legislature of each state is empowered to regulate the maximum number of churches and ministers within the state. No minister shall have the right to vote, to hold any public office, or to be voted for, nor is he permitted to take part, in any way, in public affairs. The establishment of monasteries and nunneries and the taking of monastic vows are prohibited by the constitution which asserts that the state may not permit the fulfillment of any contract, pact or agreement the object of which is the curtailment, loss or irrevocable sacrifice of the liberty of man, whether for the purposes of work, education, or religious vows. Marriage is a civil contract and no other marriage ceremony except the civil one is legal. Therefore there are generally two marriage ceremonies performed in Mexico, the civil one by a magistrate appointed for that purpose by the government, and a second by the priest or minister of the church of which the contracting parties are adherents.

As the Constitutionalist party, when it rose in arms against the Diaz government, proclaimed the rights of the Mexican people to govern themselves in a direct and democratic manner and demanded the immediate solution of the agricultural questions facing the nation, proclaiming, at the same time, the rights of the masses, naturally these reforms find a prominent place in the changes made in the constitution by the convention of 1917. These are radical and far-reaching. The new labor laws provide for an eight-hour day with six days' labor a week; while night work is restricted to seven hours and when it is of a dangerous and unhealthy character, it is altogether prohibited for women and children under 16 years of age, while children under 12 may not be employed in any contract work. Commercial establishments may not work their employees after 10 P.M.; and children between 12 and 16 must not be worked for more than six hours a day. Women shall not be required to do hard labor for three months before childbirth, and they may not work for one month after; but they shall be paid for this month and they shall retain their positions and all the rights of their contracts. They

shall also be allowed two rest periods each day during the time they are nursing. The minimum salary in every district of the country shall be such as to provide for the necessities of life, the education of children and honest amusements. In all farming, commercial, manufacturing and mining enterprises the employees have the right to participate in the profits of the business; and the percentage of such participation shall be fixed, in each community, by a commission acting under the Central Commission of Conciliation which, by law, is established in each state. There shall be no distinction in salary by reason of sex or nationality, for the same work. Farming, mining and industrial companies must provide, outside the cities and larger towns, proper sanitary dwellings, markets, hospitals and other conveniences necessary to the life of the community; and when the employees number 200, municipal buildings and recreation grounds shall be provided within which no intoxicating liquors shall be sold or gambling permitted. Employees may lawfully form combinations to protect their interests and the right to strike and to close down is recognized. The workmen must, however, give 10 days' notice to the Commission of Conciliation and Arbitration before striking; and they are not allowed to use violence of any kind in the attempt to enforce their demands. An exception to this rule is, however, made in the case of government employees in ammunition factories, which are under the authority of the army and thus subject to military discipline. A complete close-down shall be legal only when the excess of production makes suspension of work necessary to maintain prices at a reasonable rate; but approval for such close-down must first be obtained from the Committee on Conciliation and Arbitration, which shall be formed of an equal number of representatives of capital and labor together with one additional member representing the government. Any employer refusing to submit his case to the commission or to abide by its decision forfeits all right to any contracts already made with his employees and becomes obligated to pay them three months' salary. Should the workmen refuse the offer of the commission, their contracts automatically become void. An employer who discharges an employee because he has joined a union or taken part in a legal strike, or without any just cause, shall be obliged, at the option of the workman, to pay three months' salary or to continue the contract. The law provides for free municipal employment bureaus and stipulates that, when a Mexican workman contracts to go to work outside Mexico, the contract thus made must be approved by the municipal authorities and visèed

by the consul of the country to which he is about to go; and one of its provisions shall be that the employer must provide the means for the return of the workman to his native land. No part of a salary may be retained as a fine, as was formerly the case; no salaries may be paid in a saloon or place of amusement; and no workman may renounce his rights to indemnity for accident. No labor contract can be for more than one year, and, in such contracts, the laborer cannot renounce any of the rights guaranteed him by law. The only redress for the violation of a contract on the part of the employer or employee is a civil action.

## LITERATURE

Mexican literature begins with the Spanish conquest of New Spain in 1521. There seems to be little doubt that the Aztecs, the Mayas of Yucatan, the Mixtecas and other cultured races of Mexico were possessed of literatures, partially written and partially handed down from generation to generation by priests and story tellers of which there were many in the lands constituting, at the time of the conquest, what is now modern Mexico. Texcoco, the capital of one of the three nations forming the Mexican confederacy in the time of the Montezumas, was the centre of the literary cult of the Mexican empire. Netzahualcoyotl, the famous poet king of Texcoco, surrounded himself with orators, poets and scientists, and his reign has ever since been looked upon as the golden age of literature and learning of Mexico in pre-conquest days.

The siege and conquest of Tenochtitlán (Mexico City) in 1521 overthrew the vast political system of the Aztecs and disrupted their social, religious and other institutions. In the fierce struggle for the possession of the capital of the Mexican empire, the foremost nobles and leaders of the people perished, the city itself was left in ruins and more than half of it was literally leveled to the ground. Immediately after the fall of Tenochtitlán the conquerors began the erection of a new capital on the ruins of the old; and with this new city came new institutions and a new literature, partially Spanish and partially native. Indian influences, local customs, climatic conditions and racial attitude form the ear-marks that have distinguished Mexican from Spanish literature for nearly four hundred years.

### Early Mexican Writers

The early Mexican writers after the conquest were almost exclusively Spaniards for the natives were unable to speak Spanish and could write their own languages only in hieroglyphics inadequate for the requirements of a serious literature like that of Spain, then in the fore rank of literary nations. These early writers included priests, monks, soldiers and adventurers who found a wonderful field for their literary activities in a land where everything was new and strange. Hernán Cortés wrote a series of letters to the King of Spain, in which he gives his own account of the conquest. While these letters somewhat glorify the deeds of the Spaniards, they are filled with information invaluable for the history of the conquest and for a proper conception of conditions then existing in Mexico. Las Casas, bishop of Chiapas, the defender of the Indians against the rapacity and cruelty of the Spaniards, has written a vivid account of the condition of the Indians, giving invaluable data covering a wide field of observation and investigation in the years following the conquest. Bernal Diaz del Castillo, a captain in the army of Cortés, has left a very interesting and intimate history of New Spain covering the same period (to 1540). Fernando de Alva Ixtlixochitl, in his *History of the Chichimeca* and other works, deals with the preconquest period of Mexican history in a vivid, sympathetic and interesting manner. This work, with all its faults, is of inestimable worth to the historian of early Mexico. Francisco de Burgoa, *Account of the Dominicans* (1597); Alonzo Franco Ortega, *History of the Preaching Order* (1645); Agustin de Vetancurt, *Teatro Mexicano;* Antonio Tello, *History of New Galicia* (1650); Antonio de Solis (1610–86), *History of Mexico;* J. Villagutiérrez Soto Mayor, *History of the Conquest of the Mayas;* Toribio de Benevente Motolinia, *History of the Indies;* Gerónimo de Mendieta, *Indian Ecclesiastical History;* Francisco López de Gomará (1510–60), *Conquest of Mexico;* Fernando Alvarado Tezozomoc, *Cronica Mexicana* (1598), Pietro Martire d'Anghiera (1455–1526), *Story of the Conquest,* furnish much information relative to the history of Mexico, from prehistoric times to the end of the 17th century. This, in turn, has been studied, digested and presented in attractive literary form by the historians of the following century, the most notable of whom, with their best known works, are: Francisco Javier Alegre (1729–88), *History of the Jesuits in New Spain;* Lorenzo Boturini Benaducci (1702–50), *General History;* Andrés Cavo, *Spanish Government in Mexico* (1766); Francisco Saverio

Clavijero (1731–87), *Ancient History of Mexico;* Granados y Galvez, *Indian History;* Antonio Lorenzana, *History of New Spain* (1770); and José Beristain (1756–1817), *Biographies.* The historians of the nineteenth and twentieth centuries have continued to dig deeply into the wealth of documents relative to the early history of Mexico and more interesting histories have been added to the nation's already formidable list. Among the best of these later historical writers are Lucas Alamán, Carlos M. Bustamante, Luís Gonzáles Obregón, Carlos Pereyra, Anselmo de la Portilla, José María Vigil, Agustin Rivera, Francisco Sosa, Manuel Rivera Cambas, José María Iglésias, Justo Sierra, José M. Roa Bárcena and Francisco Bulnes

Literary life was very active in Mexico during the latter half of the 16th century. The writers were, for the most part, native Mexicans of white, Indian or mixed blood. This activity, within certain bounds, was encouraged by the Spanish government, by the viceroy and his court and by the ecclesiastical authorities; and numerous literary contests were held under favor of the Church and the government, at which hundreds of contestants for literary honors presented themselves. Of the writers of this period one of the best is Antonio Saavedra Guzmán, author of *El Perigrino Indiano* (1599), a 20-canto poem in which he sings the deeds of Cortés and his followers. Fernán González de Eslava, popular in his day, wrote many *autos sacramentales*, religious dramas in high favor in Spain and her colonies. Francisco Terrazas, Juán Arista, Pedro Flores, Bernardo Llanos, Francisco Plácido, Eugenio Salazar, Carlos Sámano, Juán Perez Ramírez and Bernardo Balbueno, writers belonging to this period, were all held in high esteem by their contemporaries. To the latter of these we are indebted for most of our knowledge of the literary activity of the century which he gives in detail in his *Mexican Greatness.*

The *autos sacramentales* began as a species of miracle play intended to teach the natives what it was considered necessary they should know of the dogmas and history of the Catholic church. The priests, who were the first writers of autos, continued to be their most prolific producers; but the popularity of the autos and the call for new ones almost daily made the demand greater than the church could supply and lay writers were invited to enter a field which, from the start, proved a paying one. Thus the church became the patron of literature, as she became that of art, in Mexico. Many of the earlier autos were written in Aztec and performed by Indians. Those intended for the Spanish residents of the capital were the work of literary men; and for the

encouragement of these latter and the more extensive and ambitious religious dramas which grew out of them, the ecclesiastic cabildo and the city council offered prizes for the best literary compositions. The popular *canciones divinas* or sacred songs, although not dramatic in form, are to be classed with the autos, as their object was the same. The best literary men of the day gave them their attention, with the result that they fall little below those of Spanish writers in the same field.

### Seventeenth Century

With the encouragement given by the ecclesiastical and state authorities, the 17th century opened with very notable literary activity which continued into the following century. Latin verse and composition were sedulously cultivated and their influence upon Mexican literature was very marked. The period is characterized by strong intellectual activity expressed in an exaggerated Latinized style known as Gongorism or culturism whose distinguishing features are pomposity, grandeur of language and stateliness of versification, extravagance, obscurity of diction and ornate descriptions overloaded with classical references. Among the poets of this century are: Antonio Morales Pastrina, Francisco Bramón, José López Avilez, Carlos de Següenza, who sang the glories of the national saint, *Our Lady of Guadalupe* and Luis Sandoval y Zapata, who wrote fervid religious poems. All this extensive literature is touched with the strange, passionate longing of the Indian for his vanished past; and one ever feels in it the presence of that ancient Mother of the Gods whose spirit, for the Indian at least, hovers over the rocky heights of Guadalupe.

Most of the Mexican poetry of the 17th and 18th centuries is inspired by the religious spirit of the age. Pedro Muñoz de Castro and Juán de Guevara wrote *canciones divinas* and other religious poems, and Francisco Ayerra, Francisco Cochero Carreño, Agustín Salazar, Eusebio Vela, Antonio Ramírez Várgas and Sor. Juana Inez de la Cruz turned the autos and canciones into real drama, and going beyond them, appropriated profane subjects for the stage. In Mexico Sor. Juana Inez de la Cruz (1651–94) is still looked upon as the greatest native poetical genius of the seventeenth century. She plays upon all the passions of the human heart in lyrical, amatory, devotional, epic and dramatic verse, so well that she is universally known as "the tenth muse." While she has most of the defects of her age, she rises above them in spite of them. Gaspar Villagrá and Pedro Arias Villalobos wrote rhyming

histories, the latter of Mexico and the former of New Mexico; Pedro Avendaño espoused the cause of the Mexican criollos, wrote and preached in favor of them and thus became the father of a new literary and political movement and of an illustrious brood of intensely national writers whose efforts are still active.

### Eighteenth Century

In the eighteenth century Latinism and Gongorism began to lose ground and the last noted disciple of the old school was José Abad (1727–79). Francisco Ruiz de León, who goes back to the conquest for the inspiration of his poem *La Hernandia*, is superior to his predecessors in those elements of plot and style which go to make up a great poem. José Manuel Sartorio and Francisco Soria, prolific in the extreme, still continue to write religious poems; but they are less academic and more modern. They reflect the life around them and while they are not dramatists, the temper of their work is dramatic. It is in the drama that the most characteristic marks of the period are to be found. José Arriola, Cayetano Cabrera Quintero, Manuel Soria and Manuel Zumaya are all dramatists of note who have galvanized into life the old miracle plays. Manuel Navarrete (1768-1809) restored true lyrical and descriptive poetry to his native land. His work, natural, philosophical and elevated in style, shows a keen appreciation of the beauties of nature and rises above the prosiness and mediocrity of his age. His *Divine Providence*, his *Odes* and his religious poems are his best work.

José Joaquin Fernández de Lizardi (1771–1817) forms the bridge between the Mexican writers under Spanish domination and those of the republic. He is the herald of independence and the keenest thinker of his day; so he is known in Mexico as *El Pensador Mexicano* (The Mexican Thinker). *El Periquillo Sarmiento*, his most famous work, is as well and favorably known in Spain as in Mexico. Lizardi has left a vast mass of literary material treating of a wide variety of subjects, most of them intimately connected with the activities of the age in which he lived. Manuel Carpio (1791–1860), Manuel Eduardo de Gorostiza (1789–1851), Manuel Sánchez Tagle (1782–1847), José Joaquin Pesado (1801–61), Jesús Díaz (1809–46), José M. Heredia (1803–39), Manuel Alpuche (1804–41) and Fernando Calderón, (1809–45) form a brilliant array of poets whose activities embrace the first half of the 19th century and cover every field of literary endeavor. Of these Gorostiza and Calderón were dramatists of such note that they

attracted attention in Spain. They were the contemporaries of three other noted dramatists, Juán Wenceslao Barquera, Anastacio Ochoa (1783-1833) and Francisco Ortego (1793-1849), all of whom were very popular. Calderón has the honor of being the leader in the production of a new national drama, in which he was ably seconded by Ignacio Rodríguez Galván (1816-42).

### Republican Literature

The dramatic incidents of the revolution against Spain found expression through a new school of poets who emphasize the human elements in life. To this school belong Ignacio Ramírez (1818-79), Guillermo Prieto (1818-94), José María Vigil (1829-1908), Ignacio M. Altamirano (1834-93), Vicente Riva Palacio (1832-96) and Rosas Moreno (1838-83). Of these the greatest, most popular, most human is Prieto who was the prophet of the revolution against unbearable conditions in Mexico, of which he and Ramirez have been called the firebrands. Their activity was never ceasing and they heralded the fierce, national struggle against privilege and the French intervention with a trumpet sound that reached the furthermost fastnesses of the land. José T. Cuellar (1823—), Isabel Prieto (1833-76), Manuel Payno (1822-89), Ramón Aldema (1832—), José Peón Contreras (1843-1904), Juán A. Mateos (1851—), Alfredo Chavero (1841-1904), Ireneo Paz, and Juán de Dios Peza (1852-1909) repeated the successes of the dramatists of the preceding three centuries. They continued the work of Calderón and Rodríguez Galván, building up a truly national drama which is next, in the Spanish tongue, in importance to that of Spain. All these dramatists were very popular and a new play by any one of them insured a crowded house for weeks in the capital. Mateos and Riva Palacio are also novelists of note who have made national subjects and characters wonderfully popular. Peza, who is called the Longfellow of Mexico, is, after Prieto, the most popular poet of the last half century. To this period also belong José M. Esteva (1818-98), Joaquín Garciá Icazbalceta (1825-94), Antonio García Cubas (1832—), José María Roa Bárcena (1827-1906), Eduardo Ruiz (1832-1906), Luis G. Ortiz (1835-94), Melisio Morales (1838—) and Rosas Moreno, all of whom have touched the national note and reflected the conditions, aspirations and tendencies of the nineteenth century. They have thrown behind them Gongorism and the Classical spirit which dominated the three preceding centuries.

Peón Contreras, one of the greatest dramatists of Mexico, must also be classed with this latter group; for he sounds the national note loudly and well and constantly sustains it throughout his exceedingly active life in a large body of excellent epic, descriptive and pastoral poetry. Rosas Moreno disputes with Lizardi the honor of being Mexico's most successful writer of fables. Manuel Acuña (1849–73), the Chatterton of Mexico, exercised a wonderful influence over the poets who followed him. He was endowed with a vivid imagination and an extreme poetic sensitiveness which reminds one much of Poe.

Ignacio Montes de Oca (1840—), Manuel Gutiérrez Nájara (1850–95), Salvadór Diaz Mirón (1853—), Manuel José Othán (1858–1908), Luis G. Urbina (1868—) and Justo Sierra (1828–1911), are brilliant names of the literary period covered by the Díaz régime (1876–1910). They are all essentially poets; Sierra is also an excellent historian and he and Montes de Oca are good essayists. To this period belong Antonio Zaragoza, author of several volumes of fervid religious poetry, Francisco Icaza, a classical poet, José M. Bustillos, who sings the glories of the ancient Indian empire of Mexico, Zayas Enríques, biographer, historian, poet and essayist; Enrique Fernández Granados the high priest of purity of style and artistic treatment of poetical subjects, Antonio Plaza, an extreme radical but popular poet, Joaquín D. Casasús, a distinguished writer on political and economical subjects, Julio Guerrero, an investigator of social conditions whose *Genesis of Crime in Mexico* has become a text book for social investigators, José Juán Tablado, a poet oriental in richness of imagination and depth of coloring, Jesús Valenzuela, Balbino Dávalos and Amado Nervo.

Among the most talented women writers of Mexico of the 18th century are Heraclia Badillo, Dolores Guerrero, Teresa Vera, Josefina Letechipia and Isabel Prieto Landazuri, the latter of whom has already been mentioned among the dramatists.

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## EDUCATION

The early history of education in Mexico is particularly interesting. In 1529, the College of San Juan de Letran was established in the capital and threw its doors open to Spaniards and Indians alike. The first university was opened in 1553 by special permission of the King of Spain. In 1573 two colleges,—San Gregorio and San Ildefonso,—were opened, two others and a divinity school were established a few years later. Thus seven institutions of higher education were in operation in Mexico before the close of the 16th century. It was not, however, until 1578 that the science of medicine was recognized as meriting a place among the branches of higher education, the first chair of medicine being established in that year. Twenty-one years later another medical professorship was founded, and in 1681 anatomy and surgery were added. The Royal College of Surgeons established in the City of Mexico in 1768, still exists as the National School of Medicine, a name adopted in 1845. Its home is the building made famous as the residence of the Spanish Inquisition. The Mining College, or School of Engineering, established in 1793, occupies an edifice built by the famous Spanish architect Manuel Tolsa, at a cost of $3,000,000, and is in a most flourishing condition. Although the heartless conquerors of the Aztecs, one of the noblest and most ancient races of the world, seem to have been inspired by avarice, cupidity, and brutality in their treatment of them, they were sincerely devoted to the cause of higher education, contributing most liberally from public revenues and private fortunes to its advancement. In the City of Mexico was founded in 1551, by the Spanish crown, the first university in North America,—200 years before the independence of the United States. The National Academy of Art occupies a building on the site of which was the home of the first European school of the new world, a school for Indians; the first normal school for males and its companion school for females occupied historic buildings completed respectively in 1678 and 1648; the Jesuit College of San Ildefonso, erected in 1749 at a cost of $400,000, is now the home of the National Preparatory School; the National Library, with its more than 400,000 volumes, was formerly the Convent of San Augustin; the building in which is now located the National Museum dates back to 1731 and cost $1,000,000 and The College for Young Women now occupies a roomy structure completed in 1734 at a cost of $2,000,000. Thus

are education and history closely intertwined in Mexico City. In 1824 Humboldt wrote: "No other city of the new continent, not excepting those of the United States, possesses scientific establishments so great and so solid as those of the capital of Mexico."

In most of the states, schools for the care and instruction of orphans are maintained at the public expense; in these both sexes are given the advantage of a primary education; boys are taught the ordinary trades, and girls are instructed in the various occupations pertaining to the sex. In these, as well as throughout the entire educational machinery of the republic, modern methods have been adopted, and system, progress, and thoroughness prevail. Everywhere there is manifested the deepest interest in the uplifting of the masses through the most effective of all agencies — education.

When General Porfirio Diaz was first elected President in 1876 there were only about 4,000 public schools in the entire republic. From the coming of the Spaniards the chief interest in education had been confined to the higher branches, — to the establishment of seminaries, colleges, and universities, — and the primary or fundamental branches were neglected. Under Diaz there resulted a noteworthy increase of schools and attendance. In the period between 1876 and 1891 schools of all classes had increased from 4,250 to more than 10,000 and the total attendance from 160,000 to 649,771; the attendance of *mestizos* (half-breeds), from 16,000 to 235,000, and of Indians from about 8,000 to 170,000. In 1891 the entire cost of maintenance was $4,068,300, which sum was paid by the federal and state governments, the average cost per capita being $5.63. In 1907, the number of primary schools supported by the federal or state governments was 9,710 and by municipalities, 2,230; total, 11,940; and the attendance was 776,622. There were 34 secondary and preparatory schools supported by the federal and state governments, with an attendance of 4,231; of which 3,793 were males and 438 females. Number of private schools, same year, 2,499 with 152,917 pupils. In 1913–14, $13,926,000 was spent in education.

The number of public libraries in 1913 was 151; number of museums 45, of which 11 were archaeological, seven scientific, eight natural history, one geological and metallurgical, five agricultural, one medical and anatomical, one industrial, two commercial, and nine miscellaneous. There were 164 scientific and literary societies.

A law was enacted in 1888 but not put into force until 1896, making elementary education compulsory and compelling the

establishment and maintenance of at least one public school for every 4,000 inhabitants. Under the provisions of this law the advance in education and educational methods throughout the republic was rapid.

The National Library, which has a delightful and very convenient building and location in the capital, is a noble institution. In its collection of more than 400,000 volumes are many rare books and manuscripts. Among these are works by early Spanish historians and scholars written before the art of printing was known. A very large proportion of the volumes in this library was originally the property of the church or of the priesthood and the books were confiscated by the government during the progress of the war of reform. Naturally most of them deal with religion, literature, language, or history. Of similar character are most of the libraries which have been assembled in, and are supported by, the several states.

While there are some 45 public museums in the republic many of which are quite extensive and all of which are exceedingly interesting and instructive, far greater importance attaches to the National Museum in the City of Mexico, than to all others combined. Although it has occupied its present quarters in the National Palace only since 1865, it was established in 1831, with the collections previously belonging to the Conservatory of Antiquities founded by Emperor Iturbide in 1822, and to the Royal University, to which Viceroy Bucareli y Ursula had in 1775 transferred the remnants of a most valuable collection of maps, hieroglyphs on skins, manuscripts, etc. These were consolidated under the name of the National Museum. Here the student of archaeology, of ethnology, or of any other department of the ancient history of the American continent, or of the peoples who have at different periods dwelt upon it, may find greater wealth of material for investigation and study than exists in any similar institution in the western world.

While there are also a number of very important art collections in the principal state capitals, the National Gallery, in the City of Mexico, holds unquestioned pre-eminence.

Of literary and scientific societies there are many in Mexico. Every considerable community is the home of one or more of these associations, some of which have been in existence many years.

The Revolutionary party of 1910 was unreservedly committed to the education of the masses; but they unloaded the burden upon the individual states and communities over which the Federal government retained supervisory rights but with no central con-

trol. The Constitutional party has shown itself strongly opposed to church control of schools of any kind, whether public or private. (See GOVERNMENT, p. 457.) In Mexico the city schools are fairly good, while those of the towns and villages and the country districts are very elementary and poor. This is due to lack of funds for the maintenance of public schools and the difficulty of getting capable teachers for the salaries paid. The plan of organization of the Mexican schools is more French than American. Primary instruction covers four years and the high school course two. Four years of preparatory school studies leads to the university, which is much more academic in its form than it is in the United States; so much so, in fact, that the work covered by the National University, as it is now constituted, was known, previous to 1913, as "the course of higher studies." But the Revolutionary party did away with the cabinet office of Minister of Public Instruction, giving to the arts department of the university its old name of the National Preparatory School and erecting the post-graduate school into a university. Whereas previous to this all education had been without charge, the new educational law exacts a fee of $5 a month in both the preparatory school and the university with all their affiliated schools, like those of medicine, law, dentistry, engineering, etc. (17 Jan. 1916). For some years past the tendency of Mexican public education has been toward the practical at the expense of the academic; and this tendency has been accentuated by the changes recently made. Military instruction is made obligatory; French and English have been reduced from a three to a two year course, and much attention is paid to manual training.

To the General Direction of Public Instruction of the Department of the Interior, re-established in 1914, is entrusted all educational matters pertaining to the Federation, which were originally handled by the Department of Public Instruction and Fine Arts. The General Direction of Fine Arts of the Department of Fomento (Promotion) has charge of all public libraries, national monuments, historical, archaeological, artistic and other remains; the National University, preparatory, normal and primary instruction, including the teaching of agriculture, commerce, industry, geology and manual training in the Federal District and in the territories. Rudimentary education and state colleges and schools are in the hands of the local authorities which have their own governing bodies for this purpose.

All companies having charters from either the Federal or State authorities are, by virtue of this concession, obligated to

provide schools and teachers for the children of the people in their employ. The same law applies to plantations, ranches and agricultural enterprises in general. This new law has worked well and has been instrumental in increasing largely the number of schools throughout the republic. In the state of Yucatan alone there were, in 1917, nearly as many school buildings as there were in all the republic in 1876. In others of the states under the control of the Constitutionalist Party, the number had, in 1917, been doubled since 1910.

The National Preparatory School in Mexico City (the old arts department of the National University) is now, what its name indicates, purely a school to prepare pupils to enter upon the study of some one of the professions. It is a little higher than an American college and considerably less than an American university. The National University includes the School of Higher Studies and the institutions of law, medicine, engineering and odontology. It is governed by a university council at the head of which is the rector. Owing to the unsettled condition of the country due to the revolution, definite educational statistics are not available for the past six years; but the general reports issued by the Constitutional government show a steady increase in the efficiency of the public school system and an encouraging decrease in illiteracy in about two-thirds of the states of the union. More and better trained teachers, however, are urgently needed to carry on the work of general national instruction and the fight against illiteracy now under way. But the battle is an uphill one; for the illiterates still count about 70 per cent of the total population of the country.

## AGRICULTURE AND STOCK RAISING

Although Mexico is probably the oldest country agriculturally in the New World, yet so unfortunate has been its fate since the overthrow of the Aztec empire in 1521, that it is to-day much more backward, in this respect, than many very much younger nations. The policy of Spain, for 300 years, which saw in her American colonies only so many large estates of the crown from which to obtain revenue for the maintenance of the court exerted a disastrous effect upon the agriculture of Mexico. This was increased by the belief that the one great wealth of the world was to be found in the precious metals and the settled policy of prohibiting the growth or manufacture in the colonies of everything

that came into competition with the products of Spain. In the days of the Aztecs the agriculture of the country was highly organized and was based, for the most part, on the recognition of communal interests. The destruction of the Indian ruling classes, the enslavement of the native races and the disorganization of the pre-Columbian systems of government and society destroyed, in a short time, the very life of the agricultural activity of the country without replacing it with a new organization advantageous to the interests of New Spain. Vast tracts of country under cultivation in Aztec times were, under the Spaniards, allowed to become jungle, forest and waste lands. The Indian population rapidly decreased until, finally, had Spain desired to restore to Mexico her ancient extent of land under cultivation, she could not have done so. This decrease of population contributed to make the fate of the unfortunate Indian and mestizo worse from year to year as the pressing needs of laborers forced the owners of great estates and mines to increase the bondage of the natives in order to assure to themselves the necessary labor.

The feudal condition of the country, the virtual slavery in which the native races found themselves and the restrictions placed by Spain on the development of Mexican agriculture caused it to lie in a more or less dormant condition throughout the 300 years of Spanish domination. The constant revolutions which followed the overthrow of Spanish rule prevented the agricultural development of Mexico; and the political and military leaders were so occupied with their own quarrels and personal and party interests that they found little time to give to the condition of the masses which constituted then, as now, 85 per cent of the population. True the Indians and mestizos squatted on lands or were granted certain communal rights, which were, however, being constantly interfered with in various ways; but the condition of the great mass of the laboring population was little better than it had been under Spanish rule. The dependent condition of the masses and the consequent cheapness of labor; the existence of vast estates and of a landed aristocracy and the isolation of the country all contributed to the retardment of the development of modern agricultural methods in Mexico. To such an extent is this so that even to-day agricultural methods are very primitive throughout a very large part of the country. Mining is still looked upon as the greatest source of national wealth in Mexico. This is true on the surface, because most of the ore produced in the country is exported while the agricultural products are nearly all consumed at home. The value of cattle raised in Mexico in

normal times is considerably over $200,000,000; and this alone exceeds the value of the yearly mining output of the country. There are about 120,000,000 acres of land in Mexico devoted to grazing as against 30,000,000 used for cultivation and 44,000,000 classed as forest.

On account of the broken nature of the country, the various mountain ranges, the elevated table-lands and its situation, for the most part, within the tropics, Mexico produces almost every product grown in the tropical and temperate zones. In this very ancient land of agriculture, rice, corn, barley, wheat, peas, oats, lentils, rye, peanuts, peppers of various kinds, beans and Irish potatoes are grown abundantly almost within sight of the hotland plantations of the coast country where tropical fruits, tobacco, henequen, vanilla, cocoa and sugar flourish; while, lying between the home of these different products of distinct zones, is a great intermediate land where many of the products of both zones flourish. This is the home of the pineapple; here excellent tobacco is cultivated and corn and sugar cane flourish by the side of the orange, lemon, cacao and coffee plantations from the midst of which peep forth the ever-present chile or native pepper. Over vast tracts of the uplands the maguey haciendas furnish the native drink, *pulque*, *mezcal* and a great variety of rope, cordage and cloth for sacks. Here too the *frijol* or native bean flourishes and forms, with corn, the chief food of fully 30 per cent of the population. *Habas* and *garbanzas* are also extensively cultivated, and both are highly esteemed in Spain, which takes practically all the output not consumed at home.

In normal times the chief agricultural product of Mexico is Indian corn, which is valued at from $80,000,000 to $100,000,000 a year; yet, owing to the unscientific methods of cultivation still in use, it often happens that corn enough is not grown in the country for its own needs; in which case the government is forced to throw off the duty and, in extreme cases, to import corn itself in large quantities and to sell it to the masses at cost. The next most valuable product of Mexico is henequen which is valued annually at about $40,000,000. As the greater part of this product is exported, it constitutes the chief wealth of Yucatan, which has grown to be, for its size and population, the richest state in the republic, though it was once the poorest. Although Mexico has never been looked upon as a wheat-producting country, yet the owners of large estates have lately come to realize that its capacities in this direction are practically unlimited and an annual output of wheat valued at over $20,000,000 is not uncommon, while this figure is sometimes

exceeded. One of the products of Mexico which have become of national importance within very recent years is rubber (including *guayule*), the output of which was over $33,000,000 in 1911, with vast extents of young rubber plantations rapidly coming into bearing. The following statistics of the growth of this industry are eloquent.

| Year | Rubber | Guayule |
|---|---|---|
| 1906–07 | $6,679,000 | $61,225 |
| 1907–08 | 8,892,000 | 1,233,000 |
| 1908–09 | 8,719,000 | 4,541,000 |
| 1909–10 | 16,760,000 | 9,468,000 |
| 1910–11 | 21,188,000 | 11,797,000 |

In the fiscal year ending 30 June 1911 the exports of henequen were valued at over $25,000,000; the cattle exports were $4,438,000, which did not include vast numbers which left the country without the knowledge of the government or from those parts of the country under the control of rebel factions. Some of these went to Guatemala, but the greater part to the United States. In the same year the value of the hides exported reached nearly $10,000,000 from the territory controlled by the then existing government. In normal times the value of the products of sugar cane (sugar, alcohol, rum, molasses and cognac) is second only to that of corn, reaching, as it does, usually over $40,000,000 a year. This is a branch of the native industries which is capable of great expansion, since Mexico possesses vast extensions of land suitable to the cultivation of sugar cane. The first years of the revolution showed a very considerable increase in the exports of coffee, rubber, chicle, tropical fruits, guayule, henequen, ixtli, dyewoods, cabinet and building woods, tobacco and vanilla. Owing to the fact that the revolutionists had gotten possession of the great sugar state of Morelos the sugar cane output decreased to less than one million pesos and the industry became practically paralyzed, from which condition it has not yet recovered principally because the production of the sugar cane and its products calls for the investment of heavy capital and the employment of skilled labor in certain departments.

## Chief Agricultural Industries

A brief reference to the chief features of the agricultural industry of the country will prove instructive and interesting.

*Sugar.*—The greater part of the cane is grown at altitudes above 2,000 feet, but the best results are obtained in the lower country, where it matures sooner, and where it may be cut twice

annually without necessitating replanting more than once in upwards of ten years. In the Cuernavaca valley, state of Morelos, the first sugar estates were cultivated by negro slaves, bought at Veracruz, at from $300 to $400 each. But the experiment proved unsatisfactory, and free labor was soon substituted. Now the plantations are worked chiefly by Mexican labor, and the mills are supplied with modern machinery.

*Tobacco.*— This industry is also developing great possibilities. The climatic and soil conditions, especially in the tropics, are very favorable to the best results, and whereas in Cuba the soil, after 400 years of constant use, has become comparatively unproductive, in Mexico no artificial stimulant is needed, and the flavor and aroma of the tobacco are conceded to be equal to those of the Cuban product. The chief tobacco states are Veracruz, Oaxaca, Hidalgo, Tabasco and Chiapas.

*India Rubber.*—While there has been much unsatisfactory experimentation with the rubber tree, the failures have generally been chargeable to lack of knowledge or experience or to the introduction of illegitimate speculation at the expense of practical results. There now exist in Southern Mexico a number of large and very successful rubber plantations, which have already proven that cultivated rubber can be made a paying proposition. These are chiefly in Veracruz, Chiapas and Oaxaca.

*Agave or Maguey.*— This plant, from which is extracted the drink known as pulque, which the natives use in immense quantities, is perhaps the most important feature of the agricultural interest of the central plateau. Although pulque contains only about 7 per cent of alcohol, it is intoxicating when drunk in large quantities. It possesses important medicinal qualities, is a tonic and very nutritive. From 350 to 700 agaves or magueys to the acre are planted. They mature in 8 years and give sap for a period of about five months, producing from 125 to 160 gallons of pulque each. The plants cost about $2 each by the time they have matured, and give a return of from $7 to $10 each. The pulque is secured by making a cavity in the centre of the plant, from the top, large enough to hold a few quarts, which are drawn out by rude syphons once a day. The leaves of the plants sometimes grow to be 12 feet long and weigh from 25 pounds to 100 pounds each.

*Banana.*— This fruit is successfully grown everywhere in Mexico between sea level and an altitude of 5,000 feet. It is easily cultivated and very profitable. Frequently a return of $1,000 is realized from an outlay of $500 in a single season. A plantation of

1,000 plants, costing $500 will, under favorable conditions, earn this amount, even though the methods used be faulty, the care exercised insufficient, and the variety poor. A favorable feature of banana growing is the fact that the ground occupied by the plants may also be utilized at the same time for the cultivation of coffee or other profitable products. Few other tropical fruits develop and become profitable as quickly as does the banana. Especially agreeable are some of the smaller varieties, although they may not be as much sought after as the larger and more pretentious ones. Their flavor possesses qualities not found in any other known variety.

*Orange.*— The oranges of Mexico are rapidly and surely winning favor in the markets of the north. Their true worth has only recently come to be understood and appreciated by consumers. Although the orange finds favorable conditions in all the tropical and sub-tropical states, the best results thus far have been attained on the shores of Lake Chapala, in the state of Jalisco, and in Veracruz, Michoacan, Sonora, Morelos, Durango, Nuevo Leon, Oaxaca and Puebla. The leading producers in 1914 were: Jalisco, Yucatan, Michoacan, Sonora, Morelos, Durango, Nuevo Leon, Oaxaca, Puebla, Sinaloa, Hidalgo, and Veracruz. Although the oranges of La Barca, in the state of Jalisco, are considered the best in the republic, they have already found competitors in the products of Michoacan, Veracruz, Morelos, and other localities equally favored by nature. The best results in orange growing are secured at elevations below 2,500 feet. The trees begin bearing when three or four years old and increase until the 12th or 15th year. Frost never occurs in any of the orange growing regions of Mexico.

*Lemon.*— It is doubtful if any product indigenous to the soil of Mexico has been as sadly neglected as the lemon. So largely has it been relegated toward the lower end of the list of tropical fruits, in favor of the lime, that it can with difficulty be obtained in the markets, and when found is generally unsatisfactory in quality. And this, notwithstanding the existing very favorable conditions of soil and climate and the increasing demand in the world's markets. A very considerable part of the lemon crop of Mexico consists of wild fruit which, in many sections and especially on the Pacific coast, is large and of excellent quality. It grows in the forests and jungles of the semi-tropical lands, at about the same altitude as the orange.

*Limes.*— This successful rival of the lemon, in Mexico, is grown chiefly in the states of Guanajuato, Puebla, Michoacan,

Mexico, Jalisco, Oaxaca, Guerrero and San Luis Potosi. Twenty-three states produced $342,214 worth in 1913. The lime of Mexico is of very excellent quality, but like the lemon and the orange, can be greatly improved by the adoption of proper methods of cultivation and the exercise of reasonable care.

*Pineapple.*— In the production of this fruit Mexico excels and is constantly improving her output. The towns of Cordoba and Amatlan, in the state of Veracruz, have long been noted for the size and quality of the pineapples grown in the regions round about them. The fruit is also successfully raised in the states of Puebla, Hidalgo, Tabasco, Chiapas, Oaxaca, Morelos, Guerrero, Michoacan, Colima, and Jalisco, and the territory of Tepic. It thrives best at elevations of 2,000 to 3,000 feet. It was cultivated before the conquest. Its leaves have for centuries been utilized to a greater or less extent in the manufacture, though by crude methods, of rope, twine, thread, mats, bagging, hammocks, paper, and cloth of various colors. The value of pineapples grown in 1913 is given as $642,382, the chief producers named in the official reports being the territory of Tepic and the states of Hidalgo, Veracruz, and Tabasco.

*Other Products.*— Included in the general category of agricultural products and of the numerous other articles closely allied to them, which are or can be successfully cultivated in Mexico, may be mentioned the yucca, or starch plant, which is said to contain six times as much nutritive matter as wheat, and which is grown principally in the states of Veracruz, Oaxaca, Chiapas, Tabasco and Yucatan; chicle, or chewing gum, of which over $4,340,000 worth has been exported to the United States in a single year; the mango, one variety of which (the Manilla) seems to combine about all the more delicate and delicious flavors of the choice fruits of the world; being very perishable, it cannot be transported a great distance without suffering serious depreciation in value. The apple, peach, and pear are all grown in various parts of the republic, but none has yet been brought up to anything like the standard of excellence reached in the United States, notwithstanding that almost all the natural conditions are exceptionally favorable to their cultivation.

*Stock-raising.*— The plains of northern Mexico and the valleys of the southern portion offer most favorable opportunity for profitably engaging in the live stock business. The climatic and other conditions are very favorable, the grasses are most nutritious. The transportation rates and facilities are such that cattle can be raised in Mexico and shipped to the markets of the United

States at a good profit. An idea of the increase of this industry in Mexico may be gained from the reports by the government of the number of cattle exported annually. These show a regular and very considerable increase in normal times. The Para grass of the southern Mexican states is always green, grows luxuriantly and is very nourishing. It is estimated that an acre of this will feed two head of stock the year round, and that three acres in pasture will fatten four head. Because of the great number of flies and ticks in the low country, very young stock thrives better on the higher plains of Durango, Chihuahua, Michoacan, etc. Mexico has an abundance of sustenance to provide for an enormous increase of her present supply of live stock of every kind. The states of Durango, Sonora, Chihuahua, Nuevo Leon, Coahuila, Sinaloa, Tamaulipas, Veracruz, and Michoacan constitute an admirable field for the carrying on of the cattle industry. As far back as 1883, there "roamed over an area of 300,000 square miles in the northern part of the country," according to a well known writer, "1,500,000 cattle, 2,500,000 goats, 1,000,000 sheep, 1,000,000 horses and 500,000 mules, and there were 20,574 cattle ranches in the republic, valued at $515,000,000." Between the cities of Jalapa and Veracruz, and between Veracruz and Cordoba, great numbers of cattle were to be seen from passing railway trains, their sleek and well rounded sides testifying to the excellence of the indigenous grasses before the revolution came to partially destroy an industry that promised to become very much greater in the near future.

The future of agriculture in Mexico is now apparently brighter than it has ever before been. The Constitutionalist government has attempted to settle questions which have long been calling for solution; and among these none is of more importance than that of the division of land. The law of the republic calls for the subdivision of the large estates of the country and for the creation out of the Indian and mestizo population of a gradually increasing agricultural class which shall grow into a great middle class in the not distant future.

## COMMERCE

From 1874 to 1904 the exports of merchandise from Mexico to the United States increased from $4,346,334 to $43,633,275; and the imports from the United States increased from $5,946,839 to $45,844,720. In the fiscal year 1912–13 the imports from all

countries amounted to $195,772,000. Of this sum $16,466,000 consisted of animal substances; $31,285,000 of vegetable substances; $46,711,978 of mineral substances; $21,281,571 of dry goods; $12,074,088 of chemical and pharmaceutical products; $6,744,083 of spirituous liquors and other beverages; $5,120,770 of paper and its applications; $23,383,811 of machinery and its parts; $4,600,890 of vehicles; $5,388,344 of arms and explosives, and $9,604,897 of miscellaneous articles. In the same year the exportation totaled $300,405,000, the principal articles being: gold in various forms, $39,591,000; silver in various forms, $91,293,000; copper, $56,522,000; vegetable products, $85,963,000; animal products, $29,838,000; manufactured products, $3,549,000; miscellaneous, $2,917,410. Increase over the previous year, $2,416,000. Of the total importations $97,287,000 were from the United States; $25,220,000 from Germany; $25,900,000 from Great Britain; $18,338,000 from France; and $10,530,000 from Spain. The henequen exports, in the same period, were $30,134,000; uncured hides, $11,170,000; vanilla, $3,315,000; beans, $1,160,000; cattle, $7,552,000; leaf tobacco, $1,003,000; chicle (chewing gum) $4,342,000; fresh fruits, $1,019,000; zacate, $1,960,000; woods, $3,365,000; sugar, $860,562; Panama hats, $557,423; miscellaneous, $2,471,000. Of the total exportations $232,350,000 were to the United States; $31,147,000 to Great Britain; $16,438,000 to Germany; $7,151,000 to France; $2,182,000 to Spain. In the previous fiscal year the importations were $182,866,000, and the exportations $297,989,000. In the fiscal year 1894–95 the imports were only $66,200,000 and the exports $95,000,000, a remarkable record of progress in the brief period of 18 years.

The following table of exports and imports serves to show the progress of Mexican commerce during a very active decade of its history:

| Year | Imports | Exports |
|---|---|---|
| 1903–04 | $177,861,000 | $210,[illegible] |
| 1904–05 | 178,205,000 | [illegible] |
| 1905–06 | 220,005,000 | [illegible] |
| 1906–07 | 232,230,000 | [illegible] |
| 1907–08 | 221,757,000 | [illegible] |
| 1908–09 | 156,535,000 | [illegible] |
| 1909–10 | 194,866,000 | [illegible] |
| 1910–11 | 205,874,000 | [illegible] |
| 1911–12 | 182,662,000 | [illegible] |
| 1912–13 | 195,772,000 | [illegible] |

In order to show the relative importance of the Mexican custom houses, both maritime and frontier, the following statement of collections of import duties for the fiscal year 1912-13 is given: Veracruz, $81,793,000; Tampico, $45,832,000; Laredo, $18,866,000; Juarez, $3,386,000; Progreso $11,248,000; Ciudad Por-

firio Diaz, $4,387,000; Nogales, $1,857,000; Mazatlan, $2,514,000; La Morita, $6,057; Frontera, $1,486,000; Agua Prieta, $1,208,000; Soconusco, $16,061; Guaymas, $2,239,000; Acapulco, $611,342; Isla del Carmen, $264,317; Ensenada, $383,662; Mexicali, $682,788; Chetumal, $480,602; La Paz, $206,722; Tuxpam, $743,322; San Blas $151,602; Salina Cruz, $624,570; Tijuana, $212,847; Topolobampo, $147,310; La Ascencion, $52,730; Camargo, $5,540; Mier, $9,707; Puerto Angel, $10,827; Manzanillo, $1,486,000; Matamoros, $1,680,000.

In the upbuilding of the foreign commerce of Mexico, the construction of railways made possible the phenomenal results that have been achieved in the last 18 years. The entire foreign trade of the country, practically, has been created since 1876, most of it since 1880. Before competition in the transportation of freight was provided, the rate from Veracruz to Mexico City, 264 miles, ranged around $68.00 per ton, going as high as $330.00 during the French intervention.

Formerly almost all the first class furniture imported by Mexico came from France, but now much of it is supplied by the United States. Most of the importations of agricultural machinery and implements are from the United States. The same is true of food stuffs, lumber, machinery for irrigation works, supplies for mining and for steam and electric railways, unmanufactured leather, vehicles, boots and shoes, canned goods, patent medicines, live stock, cotton, manufactures of steel and iron, sewing machines and typewriters. From Spain and France come most of the wines, and the whisky is supplied by the United States and Scotland. In normal times Germany and Belgium have a monopoly of the hardware trade, England and France of the dry goods trade, and France of the trade in notions, jewelry and fancy goods. Among the leading articles exported by Mexico are coffee, two-thirds of which goes to the United States and the balance to England, Germany and France, vanilla, sugar, tropical fruits, beans, live stock, precious metals, henequen, leaf tobacco, hides, rubber and ixtli.

Mexico has a "commercial code" which dates back to 1887, and which, among other things, provides that foreigners shall be free to engage in commerce, subject to the same conditions and requirements that apply to citizens; that all documents referring to matters of public concern shall be recorded in a public register; that all business correspondence shall be preserved; that notice by circular or through the press shall be given of the character of any business about to be established and of any modifications or other changes subsequently made; that at least three

account books,— a general day book, a book of inventories and balances and a ledger,— shall be kept in the Spanish language; that all brokers must be Mexicans by birth or naturalization, have a mercantile education and possess a diploma from the Minister of Fomento or other proper officer; that an unlawful agreement or contract involves no cause of action at law; that mercantile companies may consist either of a partnership under a collective name or with special partners, or may be an anonymous (stock) company, a society with special partners or a co-operative society; that all contracts for the formation of companies must be in writing and very full and explicit; that the consolidation of companies cannot take effect until two months after publication of particulars, except on payment of all debts; that foreign companies must register in Mexico and publish an annual balance sheet; that there may be " temporary " or " profit-sharing " mercantile associations, the first being without a firm name and making partners jointly liable to third persons, and the last named implying an association under which two or more persons may become interested in operations which one or more may undertake in their own names, but which involve only one legal entity and no responsibility on the part of a partner not joining in a contract with a third party; that the principal of any manufacturing or commercial business shall be responsible for the acts of his managers or employes; that no institution of credit can be established except by authorization of the Minister of Finance and the approval of Congress; that every merchant ceasing to make his payments, whose liabilities are more than 25 per cent in excess of his assets, who has made formal assignment of his goods, or who has absented himself without leaving any person in charge of his business who can pay his debts as they become due, shall be considered a bankrupt.

In 1916 the following statement was published in the Pan American Union handbook, *Mexico — General Descriptive Data*: Mexican statistics are not available for a date later than 30 June 1913. Foreign commerce for year ending 30 June 1914 (estimate of exports) $176,000,000; (estimate of imports) $65,000,000; total $241,000,000. For the year ending 30 June 1915, the estimate of the value of Mexico's exports was $150,000,000; imports $61,000,000; total foreign commerce $211,000,000. Imports from the United States in the year last mentioned (estimated value) $34,200,000, and exports to the United States $115,000,000. The imports into the United States from Mexico in 1916 totalled $105,000,000 and the exports to that country reached $53,000,000 in the

same year. In the nine months ending with March 1917, imports from Mexico were $80,692,000 and exports $47,501,000. In May 1917 the Mexican government prohibited the exportation of foodstuffs and food animals to the United States because of the depleted stocks and herds in the country owing to the revolution.

## MANUFACTURES

Mexico is a manufacturing country in the very primitive sense of the word; for literally the greater part of her manufactured products are made either wholly by hand, by individual tradesmen each working on his own account, or in small shops where the machinery used is employed simply to aid the cunning of the hand. Very often the craftsman who makes the goods is his own salesman in the first instance, and he sells at a price that would be considered ridiculously cheap in a great manufacturing centre. Often he disposes of his wares directly to the consumer; but frequently he finds purchasers in retailers who make large profits on the transaction.

At the time of the conquest Mexico was probably nearly as far advanced in manufactures as Spain; the whole nation was one great hive of industry, not the least important part of whose activity was that contributed by the native manufacturers, who were to be found in every city and town, where each guild lived in a quarter by itself and had, in a sense, its own civic life. These manufacturers had their stalls in the great markets held once or twice a week in the smaller places and every day in the larger. On these market days the merchants bought the goods with which to stock their caravans, which they sent out over the length and breadth of the land, and often into Guatemala and the other Central American countries; for no matter how much the nations might be at war, the merchant with the proper credentials was religiously respected. Hundreds of years of this pre-Columbian training has made the Mexican naturally ingenious. He has a keen eye for the beautiful, for symmetrical proportions; and his hand is as skillful as his judgment is good and his art sense true.

The descendants of these ancient manufacturers exist in many towns and villages throughout Mexico to-day. Here pottery flourishes; there blankets of beautiful design and workmanship have brought fame, for many years, to some humble little town. In this other primitive village carved furniture reminiscent of all

the barbaric splendor of the Aztec and the Maya has gathered to itself a reputation for beauty of design and execution. In many places, where the reeds grow tall, white and durable, the mat-maker flourishes and plies his trade much as his ancestors did in the ancient days when they made ornate and beautiful rush matting for the floors of the palaces of Indian warriors, nobles and princes. Their work has become, to-day, to a very great extent, conventional in form and subject, for the workman has come to labor for the middle and lower classes, who pay him little for his work and, in return, demand little of his imagination and his artistic sense. So, for lack of incentive to do better, he long ago entered upon a period of decline in the artistic quality of his output.

These various arts handed down from father to son in unbroken line for many generations belonged to the old guilds and schools that, in Aztec days, trained the workmen of the empire with great care. But these training centres all disappeared in the first quarter of a century following the conquest, after which the manufacturing interests of the native Indians became purely local. The workman thus left to himself, without technical training and skilled direction, became a copier of the arts and crafts of his predecessors. Yet even this copying is often done in a spirited manner that reveals the strong artistic sense of the rude Indian artisan.

The Spaniard made use of the industrial and art training of the Indians by employing them in manufactures of many kinds which he introduced into the country. He found them willing and intelligent pupils in the ways of the Old World. Everywhere the arts and crafts of old Spain were introduced into New Spain and everywhere they flourished. But the native Indian system was very little changed. In the cities and towns the Indians worked under a Spanish master as they had labored under a native craftsmaster in the pre-conquest days; and those who followed the trades and crafts lived apart, as they had done under their native masters and worked just as they had done for a thousand years or more. Except in the cities and towns, this condition exists, to a considerable extent, in Mexico to-day. The shoemaker, the saddler, the furniture maker, the manufacturer of rude agricultural implements works by himself, with perhaps one or two assistants, if he happens to be a little more prosperous than his neighbor craftsman. The native jeweler, living in a primitive little shop, produces echoes of the beautiful designs in gold and silver that filled Europe with admiration for the skill of his ancestors in the


ECONOMIC MAP
OF
MEXICO
REFERENCE
Antimony
Coal
Copper
Gold
Iron
Lead
Platinum
Quicksilver
Silver
Sulphur
Tin
Zinc
U N I T
MEXICO
GULF OF CALIFORNIA
PACIFIC OCEAN
TROPIC OF CANCER
C. San Lucas
Revillagigedo Islands
WHEAT
MAIZE
SHEEP
CATTLE
SUGAR
COTTON
HORSES
Longitude


98
94
90
86
32
28
24
20
16
STATES
GULF
OF
MEXICO
PADRE ISLAND
Matamoros
TROPIC OF CANCER
Tampico
Veracruz
Coatzacoalcos
Campeche
Progreso
Merida
GULF OF CAMPECHE
YUCATAN CHANNEL
HENEQUEN
SUGAR
LOGWOOD
TOBACCO
BEANS
MAIZE
ROSEWOOD
RUBBER
COTTON
COFFEE
CATTLE
SUGAR
HEMP
RICE
COCOA
PETROLEUM
WHEAT
BEANS
GUATEMALA
HONDURAS
SALVADOR
GULF OF TEHUANTEPEC
Gulf of Honduras
San Cristobal
New Guatemala
San Salvador

century following the conquest. In many places the Indians still weave *tilmas*, blankets and cloth for the dresses and garments of the women and children. In this work of weaving each tribe has its own distinct tribal traditions from which it seldom or never departs; and these peculiar traditions mark the dress of each tribe as distinctly as the plaid marks that of the Highland Scotchman.

During the 300 years of the Spanish occupation of Mexico this traditional dress of the native population changed very little, because Spain made of all the necessities of life monopolies of the crown and sold the right to deal in them to the highest bidder or bestowed them upon some needy or fortunate court favorite who proceeded to make a fortune out of them by selling them at from three to four times the market price in Europe. As the natives were not able to purchase the goods that came within these monopolies, they continued to manufacture such as they required for their own use as their ancestors had done. In this way they preserved their ancient manufactures and, with them, much of their individuality. Scores of these ancient manufactures still exist apparently little touched by the hand of time. This persistence speaks well for the future of Mexico as a manufacturing nation. In these craftsmen, trained for centuries in the same trades, she possesses a very valuable asset. The field for manufactures of all kinds is most promising, since it offers raw material in great abundance, efficient, intelligent labor and a very considerable home market, with a still larger one in Central and South America.

Manual training has been introduced into the schools of Mexico and several arts and trades colleges are turning out skilled mechanics in all lines of industrial work. Wages are low, much lower even than in Europe, and the native workman in the factories already established throughout the country gives his employer no trouble.

### Cotton

In 1912 there were 148 cotton mills in the republic. Of these the largest and most modern were in Puebla, Orizaba and Mexico City. In these factories 32,000 workmen were employed to operate 762,000 spindles and 27,000 looms. The cotton goods they produced during the year were valued at over $50,000,000; and included sheetings, ticking, lining, drills, shirtings, percales, quilts, napkins, table-cloths, woolen-cotton goods, knitted garments and fleece-lined underwear. The Atlixco cotton factory, Puebla, employed, in the same year, about 2,000 hands and is capitalized at

$6,000,000; the Compañia Industrial de Orizaba owns four cotton mills; has 4,000 looms and ten printing machines in commission; is capitalized at $15,000,000 and employs 6,000 mill-hands. The San Antonio Abad, with an invested capital of $3,500,000, also operates four mills, three in the state of Mexico and one in Mexico City. El Porvenir y Anexas, at Villa Santiago, Nuevo Leon, is capitalized at $2,000,000, and the Veracruzana, at Santa Rosa, in the state of Veracruz, near Orizaba, at $3,500,000. (See article on Cotton Industry, p. 694.)

### Woolen Goods

There are a number of woolen factories in Mexico; but they are of less importance than the cotton mills, for the reason that the great mass of the lower classes wear cotton garments, thus creating a strong and constant demand for the latter goods. There are woolen mills in Dûrango, Aguascalientes, Guanajuato, Hidalgo and Puebla; but the most important establishment is near Tlalnepantla, in the state of Mexico and not far from the federal capital. The woolens made in the republic include suitings, kerseymeres, carpets, blankets, rugs and knit goods. The city of Saltillo, Coahuila, is noted for its handsome serapes (native blankets), for which there is a constantly increasing demand. These serapes, which are made on primitive Indian looms, are exceedingly well woven, of fine texture, brilliant colors and pleasing designs. The San Ildefonso factory at Tlalnepantla, with a capital of one and one-half million dollars is one of the most successful manufacturing enterprises in Mexico and its goods are to be found on sale throughout the republic.

### Silk

Few countries have the natural advantages for raising and manufacturing silk possessed by Mexico. Throughout the greater part of the republic both white and black mulberries grow luxuriantly and require practically no care even in those regions less favorable to their cultivation. So even is the climate in most parts of the country that silk worms can be grown out of doors practically all the year round; and they require but a small part of the care they must necessarily receive in Italy. Labor in Mexico is cheap and the masses of the people, once accustomed to cocoon raising and the cultivation of the mulberry tree, might be expected to thrive at the business as their ancestors did in all the industries, before Europeans came to disturb the current of their national life. The Indian is industrious when he works on his own account.

In Mexico City there is one important silk factory, which is engaged in manufacturing rebosos, the light shawls which the Mexican women of all classes wear almost universally everywhere outside the larger cities. This factory received strong encouragement from the Mexican government which has, for some years, been anxious to establish the silk industry on a firm basis in the republic. Two great nurseries near the capital, one at Coyoacan and the other at Churubusco, have begun the planting of 6,000,000 mulberry trees, from which it is proposed to send out free propagation slips to all parts of the country wherever people can be induced to plant trees and to go into the business of silk raising.

### Textiles and Fibres

There is perhaps no industry in Mexico that shows more variety in forms of manufacture than that of fibre-plant products. Rope, cordage, thread, packing, carpets, rugs and practically every form into which linen, hemp, jute, ixtli, henequen and other native fibre plants and textiles are made, are manufactured in Mexico. Among the most important textile and fibre goods factories in the republic are: La Aurora of Cuautitlán, near Mexico City, which has an invested capital of $1,300,000 and turns out bags and packing of all kinds; La Industrial Manufacturera Company, capitalized at $4,000,000 and operating six factories; the Linera de Mexico Company, capital $600,000; Santa Gertrudis Co., near Orizaba, capital $1,000,000, hands employed in normal times from 1,300 to 1,500.

All over the republic, wherever the numerous fibre-plants grow, which is almost everywhere, in highlands and lowlands alike, the natives carry on the manufacture of rope, cord, string, thread and coarse wrapping cloth just as their ancestors did before the conquest. These products of the country can be found from the Rio Grande to Guatemala. Ixtli (agave rigide), a rather coarse century plant, furnishes a considerable part of the raw material for this industry. The maguey (agave Americana), from which the native pulque is extracted, also supplies raw material for the coarser kinds of rope, cordage and sacking. Even mats and rugs are made from it. In addition to the large and very general consumption of these goods, the exports to foreign countries amounted, in 1912, to $3,792,678.

Among the other fine fibre plants of Mexico are zapupe and pita, both of which furnish long, silky, strong commercial fibre, which is not exported because the home consumption demands more than the output. The best known, commercially, of all the

fibres of Mexico is henequen grown in Yucatan and the neighboring states of Campeche and Chiapas, and to a small extent, in other parts of the republic. From the finer fibre of this plant there are manufactured in Mexico many varieties of woven fabric that resemble silk in appearance and softness of texture. In fact there are in Mexico numerous fibre plants that offer more or less acceptable vegetable substitutes for silk. Since time immemorial henequen has been manufactured, in Mexico, into rope and cordage of all kinds; but now it is exported, principally to the United States, for the making of binding twine for reapers.

Though no country in the world is richer than Mexico in excellent fibre plants, yet she imports large quantities of linens, hempen fabrics, yarns, laces, handkerchiefs, trimmings, carpets, rugs, curtains, quilts and almost every kind of goods manufactured from the various fibre products, all of which could be made at home from native products at a great saving to the nation.

Characteristic products are the huge, highly-adorned, sugar-loaf, native felt sombreros and the so-called Mexican Panama and other straw and reed hats. Most of the latter are made by individuals in their homes. The natives display much taste in this work, which is another of the numerous industries of the country handed down from father to son for hundreds of years. La Abeja (The Bee), in the Federal District, near the capital, with an investment of half a million dollars, is the most important of the hat factories of the country. In Mexico, Guadalajara, Puebla, Veracruz and Oaxaca there are from one to a score or more of smaller hat factories, each of which has its own wholesale and retail store. In addition to these there are little shops that do a purely local business.

### Beer, Wines and Liquors

There is a large consumption of distilled and fermented liquors in Mexico, a very considerable percentage of which is made in the country. Within the past ten years beer has come into favor, in the cities and larger towns and it may be found on sale even in the smaller interior towns and villages, though there the consumption is slight. Its use is confined to the middle and upper classes almost exclusively because its price puts it beyond the use of the laboring class. There are large and well-equipped breweries in Mexico City, Oaxaca, Monterrey, Puebla, Veracruz, Orizaba, San Luis Potosí and Tampico, while installations of lesser importance exist in several of the smaller cities. In the capital there are several distilleries where whisky, brandies, cognacs and cordials of various kinds are made. In the Parras district of

Coahuila and in some other parts of Mexico excellent wines are produced, and wherever sugar is grown, which is pretty general in the low, hot lands of the coast country, aguardiente (native rum) and excellent alcohol are manufactured. Many of the sugar plantations possess the most modern plants for making these products. Much of the Mexican aguardiente is shipped to Europe where it is turned into cognac. Tequila, a strong alcoholic liquor somewhat like Holland gin, is manufactured extensively in Mexico, but most of the output is consumed at home, for its use is general throughout the country. Like pulque, tequila is manufactured from the century plant. The use of pulque is more extensive than that of either tequila or aguardiente; but it is confined to the upland plateaux and the country at an elevation of 4,000 feet, because there grows the maguey from which it is manufactured. On the uplands it has been, for many years, the greatest of the industries of the country, after mining, millions of acres being devoted to the growing of the maguey. Another distilled product called mescal is made from another and smaller species of the agave; and it is extensively used in the region where this latter plant thrives.

### Soap, Candles and Chemical Products

A great part of the raw materials used in these industries is still imported though the republic is capable of producing most of them. The Laguna Soap Company, capital $5,000,000, formed by the amalgamation of two large cotton-seed oil companies, produces daily 400 tons of cottonseed oil, 7,500,000 pounds of soap and 2,000 metric tons of glycerine, together with a variety of edible cotton-seed oil products. It employs from 800 to 1,000 men. La Union Soap Factory of Torreon, capital $2,000,000, is engaged principally in the manufacture of soap and glycerine. The company also has a large refining plant near Torreon. There are a number of smaller soap and many candle factories scattered throughout the republic. Chemicals, paints, varnishes and acids are also manufactured in or near numerous cities and towns.

A few years ago all the petroleum and petroleum products used in Mexico were imported and sold in the republic at excessively high prices. Now petroleum, benzine, kerosene, paraffine wax, asphalt and many by-products are manufactured in the country; and native oil has become an important factor in the national life. Whole railway lines use oil burners on their engines, and petroleum is employed for producing motive power in many kinds of industrial life. Yet but a very small percentage of the possible native oil sources has been exploited; for the oil belt extends all

the way from Texas to Guatemala on the Gulf side, and large deposits are known to exist on the Pacific coast. The refining of crude petroleum has become a business of considerable importance in Mexico and the exploitation of the asphalt deposits has already influenced the pavement of the streets of the cities and larger towns of the republic.

### Iron and Steel Products

No other Mexican industry has grown so fast, within the past dozen years as that of the great iron and steel foundries now turning out products equal to those of the steel-producing centres of the world. This output includes smaller agricultural implements, marketable iron and steel, and a constantly increasing number of finished products such as are turned out from the great American and European steel plants. The Monterrey Iron and Steel Company, capital $10,000,000, with its great blast furnaces, produces 300 tons of steel per day. It makes steel rails and structural iron and steel in vast quantities and of excellent quality. Monterey is the most important centre of this new industry; and naturally there the business has reached the highest state of perfection in the republic. The steel and iron industries of Richard Honey, in Hidalgo and the Federal District, are next in importance to those of Monterey. Two other important iron foundries in Jalisco rely chiefly upon local trade. One of these at Zapalapa supplies iron to Guadalajara, Aguascalientes, Manzanillo and surrounding country.

### Guayule

In Mexico the production of rubber is a real manufacturing industry in certain parts of the republic where the guayule plant grows in abundance. This plant is a low shrub from two to four feet in height from which crude rubber is extracted by means of specially constructed machinery. The plant is torn out by the roots, is crushed and the sap extracted from it. It then undergoes certain processes before it becomes commercial rubber. The Guayule Rubber Company produced in this way, in the first seven months of 1912, 1,818,880 pounds of rubber. The International Rubber Company of Torreon, which is capitalized at $37,500,000, possesses 2,000,000 acres of land in the state of Zacatecas, on which wild guayule grows abundantly. The company has an extensive factory at Torreon, in which is installed the most modern rubber machinery. The guayule exported from Mexico in the fiscal year 1912–13 was valued at $7,234,000, which was only about one mil-

lion dollars less than the value of the tree rubber grown in the country during the same period. In 1911–12 the guayule exports brought $11,798,800. (See article on Rubber Industry, p. 766.)

### Tobacco

There are many cigar and cigarette factories in Mexico; but the latter far exceed the former in volume of business. The principal tobacco manufacturing centres are Mexico City, Orizaba, Puebla, Jalapa, Veracruz, Cuernavaca and Guadalajara. But there is scarcely a city or town in the republic that does not make either cigars or cigarettes or both for local consumption; and each manufacturing district has its own favorite local brands. In the city of Mexico an immense number of cigarettes are made, the Buen Tono company turning out alone daily about 20,000,000; and the Tabacalera makes about 4,000,000. Both these companies are backed by millions of capital. In the Buen Tono's factories (including the Cigarrera Mexicana), 1,700 hands are employed. Certain brands of Mexican cigars are favorably known in Europe and in the United States.

### Packing Houses

There are a number of packing houses in Mexico. Several are on the Pacific coast where the cattle ranges are more or less isolated from the European and American markets; but the National Packing Company, with a capital of $7,500,000, operating from its headquarters in the capital, does an international business.

### Paper

Paper is made (though not enough for local consumption) by the San Rafael and Anexas Company, situated near the capital. This institution, which is capitalized for $7,000,000, has two factories, a pulp mill and extensive forests from which it draws its raw material. Though the output of San Rafael runs to the commoner grades of paper, including large quantities of newspaper print, yet it also makes high-grade paper of numerous styles and degrees of fineness, among these being calender and the finer grades of half-tone paper.

### Dynamite and Other Explosives

These, including giant powder, are manufactured in Mexico; and the government has its own ammunition factory at Santa Fé, near the capital. The Mexican National Dynamite and Explosives

Co., at Dinamita, Durango, produces 50,000 pounds of explosives daily. It is capitalized at $3,400,000 and employs from 900 to 1,000 hands.

### Flour Mills

Large flour mills, modern in every respect, and others of smaller capacity and more primitive types are to be found in Mexico from Monterey to Yucatan. Of these the most modern are: El Hermosillense, Hermosillo; the Chihuahua Flour Company, Chihuahua; the Goleta Mills, Saltillo and Monterey; the Phœnix Mills, Saltillo; the Esmeralda Mills, Monterey and Ramos Arizpe; the Alliance Mills, Torreon; the Diamond Mills, Gomez Palacio; the Gulf Flour Company, San Luis Potosi and Merida; Aurelio Herrera and Company, Irapuato; the Union Mills, Toluca; the National Flour Manufacturing Company, Mexico City; the Bakers' Mutual Association, Guadalajara; and La Perla Mills, Aguascalientes.

## MINERALS AND MINERAL PRODUCTION

For three centuries Mexico was the greatest of silver-producing countries; from the single camp of Guanajuato came one-fifth of the silver mined during that period; and for one straight century the same camp gave to the world two-fifths of its silver. Yet to-day, after almost 400 years of exploitation, Guanajuato has still uncounted unexploited wealth. Yet Guanajuato is but one of many great Mexican mining camps, known to the world for centuries.

Whether the natives of Mexico prior to the conquest, formally worked gold, silver and copper mines is an open question; but that they did exploit the placer deposits of the rivers of the country there is no doubt. Placer gold in quills passed as currency in Mexico at the time of the discovery and for years afterwards. Gold, silver and copper ornaments, idols and other figures beautifully and often elaborately worked, existed in vast quantities at the time of the fall of the capital of the Aztecs. Since then, throughout four centuries, examples of the metal work of the natives of Mexico and Central America have frequently come to light; and still to-day explorers find these eloquent witnesses of the culture of the Indian empires of America in the graves of their nobles and princes and the ruins of their great cities.

## Spanish Colonial Period

With the fall of the capital of the Aztecs in 1521 there began a period of wonderful mining activity throughout the vast extent of the empire of the Montezumas. From the time of their landing on the shores of Mexico near the site of modern Veracruz in 1519, until the conquest of the city of Tenochtitlán two years later, Cortés and his followers were inspired by a dream of great wealth to be amassed from the treasure of the emperor of the Aztecs.

This dream was made more vivid by the presents in gold with which the unfortunate Indian ruler sought to bribe his unwelcome guests to leave the country. After the fall of the city the Spanish adventurers awoke to find their dream of sudden wealth unrealized in so far as the capital of the Aztecs was concerned. But they lived in an age when strange fantasy colored the lives of men. If the much-desired El Dorado was not in Mexico City, then it was somewhere else; and the hunt for the golden treasure was continued. Thousands of buscones (prospectors) radiated in all directions from the capital in search of the hidden treasure. In this hunt mines of fabulous richness were discovered and towns sprang up like mushrooms in the almost inaccessible fastnesses of the mountains. By 1537, when the first official report of the vice-regal government was made, the mining industry had become firmly established in many parts of the colony and was already paying important contributions into the treasury of the Spanish court. From the establishment, in 1535, of a settled government under the direct representative of the crown, this mining activity increased with great rapidity and continued to extend itself farther and farther from the capital, the centre of colonial life in New Spain; and the dream of finding El Dorado was never altogether dissipated during the 300 years of Spanish rule in New Spain. While the glitter of gold was always before the eyes of every buscon the soft, white gleam of silver brought unexpected wealth to thousands who often squandered their newly-acquired fortunes in the search for the elusive yellow metal. How great was this treasure of silver wealth that Spain extracted from the rugged sierras of Mexico may be gleaned from a study of the report of the government mint. From 1537, when the newly-established royal mint issued its first statement of mining activity, to 1821, when Spain withdrew from the colony, the recorded silver production of the mines of Mexico amounted to $2,082,260,657. During the same period the gold output was only

$68,778,411, or less than one-thirtieth of the silver returns. Large as these returns are, it must be remembered that probably not more than half the ore mined was ever reported to the government because of the excessively heavy taxes exacted by the crown, which claimed as its right the royal one-fifth, and frequently, under one pretext or another, succeeded in extorting more from the mine owners. Quicksilver and powder, the most important aids of the miner in Spanish colonial days, were royal monopolies and consequently were sold in Mexico at from three to five times their market values. These and certain local, city and port exactions mulcted the miner of at least another fifth of the output of his mines. Transportation of ore from remote interior points, over almost impassable mountain trails, occupied from weeks to months in transit between the mines and the capital or the nearest port. Provisions and mining supplies had to be brought to the camp in the same slow and costly manner. All these extraordinary expenses made it possible for the miner to work only the richest ore and forced him to leave untouched veins which, in modern times, have become sensational ore-producers. It forced him also to sort out the richest of his rich ores and to leave the poorer on the dump heap. These dump heaps, worked over by modern mining methods, have produced millions to foreign investors.

During the Spanish colonial period Mexico was literally the silver treasure-house of the world; and most of this wealth went to Spain; and it all, whether it went to the crown or to Spanish adventurers and capitalists, contributed to make Spain the richest country in the world, thus shaping her destiny and making of her people a nation of adventurers seeking fortune in the vast colonial possessions covering the greater part of two continents, and disdaining the industries, trade and commerce. With her vast wealth Spain purchased from the rising industrial countries of those days, the Netherlands and England, what she required at home; and the mines of the colonies paid for it all. As a natural result, the national life of Spain was disrupted and the industries languished where wealth came so easily; and she taught the colonies to view life from her own point of view. Mining and the manipulation of vast estates became almost the only occupation of a gentleman. So, from year to year, from every mining centre in Mexico and the other Spanish American colonies, buscones were sent out constantly in increasing numbers to look for new mines. Men pawned their all to go on the same quest. Every decade witnessed its rush from one promising mining district to another. Taxco, Guerrero, was opened as a mining camp in 1522, the year after the

fall of Mexico City; and from there numerous mining expeditions were sent forth to seek for new centres of wealth. One of these reached the far-distant state of Chihuahua in 1544. The discovery of Parral, Santa Barbara and other rich mines, caused a rush of miners from the centre and south of the country toward the north and west. In 1546 Zacatecas became the centre of this mining excitement, which began to shift, in another two years, to Guanajuato. In the same year the Bolaños mines of Jalisco began to attract attention and other centres of rich mineral deposits were discovered in Zacatecas. The following year Hidalgo came into notice through the sensational discoveries of ore at Real del Monte. All these mining districts are still producing ore with no signs of exhaustion and most of them are admittedly but partially exploited. In 1552 Durango was invaded and, three years later, the discovery of bonanza ore in the Sombrerete mines brought the state of Zacatecas into the galaxy of shining silver stars. In 1574 Charcas, San Luis Potosí, opened silver mines destined to make the state famous. About the close of the 16th century, the chief mining interests of Mexico centered about Mapimí, Durango, which promised to become a great gold and silver producer. Scores of other more or less important mines were opened in the following years, among the most noted being Guadalcázar, San Louis Potosí, 1622; Batopilas, Chihuahua, 1632; Candelario, Chihuahua, 1638; Santa Eulalia, Chihuahua, 1700; El Caballo and other mines in the same state, 1703; the famous Magdalena district, Sonora, 1725; Talapujahua, Michoacán, 1740; a new Real del Monte district, 1759; the Valencia, Guanajuato, 1760; Catorce, San Luis Potosí, 1773 and La Purisima in the same state, 1780. All of the districts mentioned were wonderful producers. The Mapimí mines, in Spanish times, made numerous owners wealthy, and since the establishment of the republic German capitalists have made of them one of the greatest gold and silver producing centres of the republic. The Batopilas mines have made the state of Chihuahua famous and attracted foreign capital to themselves and to neighboring mines. The recorded output of the Candelario mine for 100 years was $35,000,000, but so notorious was the avoidance of the payment of the government taxes, that the amount was undoubtedly very much more. At the beginning of the 18th century El Caballo claimed to be the richest mining district in the world. In 55 years its recorded output was over $85,000,000. The Parral district, famous in Spanish colonial days for its wonderful richness, has, in modern times, under English, American, German and other foreign management,

justified its reputation as one of the most extensive and generally mineralized districts in Mexico. The Real del Monte, which also produced wealth in Spanish hands, its output in one year being $15,000,000, has since, under English capitalists, extended its field of operations and has made itself known wherever silver is bought and sold. But the greatest single silver mine in the world is the Valencia, which paid to the government from 1766 to 1826 taxes on $226,000,000. It probably produced over $5,000,000 a year for 60 consecutive years. Vast sums of English and American capital invested in this district have done much to develop it along modern lines and to make it known. In the one year 1713 it is recorded as producing $14,000,000; and so much ore did it yield for a number of years that it made all its owners immensely wealthy. The Talapujahua mine in eight years yielded $18,000,000.

The 17th century was one of development for Spanish miners in Mexico and the 18th one of wonderful production. Towards the close of this latter century the recorded yearly output of the mines of Mexico was $27,000,000.

### The Revolutionary Period

This, beginning in 1810 and continuing till 1821, disrupted all the affairs of the colony; and mining suffered so severely that it did not recover completely for nearly half a century after the Spaniards had left the country. In 1821 the output of the mines of Mexico had dropped to less than $5,000,000 a year.

### From Iturbide to Diaz

Mexico, under the administration of the emperor Iturbide, through the national congress in 1823, favored the development of the mining interests of the country. It abolished most of the exactions imposed upon miners during the 300 years of Spanish rule, and passed mining laws allowing foreigners to enter the mining business in Mexico. Notwithstanding the unsettled state of the country, the inducements offered to foreign capital were so great that vast sums of English money poured into the country for investment in mining enterprises. This was the beginning of that great English influence which remained paramount in Mexican mining affairs until the beginning of the Diaz régime in 1876. During this period the records of the mints show silver $797,655,080; gold $47,327,383 and copper $5,227,855. Since then copper has become one of the largest and most important products of the republic.

After the departure of the Spaniards from the country few people in Mexico were possessed of sufficient capital and knowledge to work the mines abandoned during the revolution, many of which had reached depths requiring powerful pumping and other machinery and exploitation on an extensive scale to make the business pay. The English were quick to see the opportunity thus presented; and many companies were formed to acquire and work these old mines and to exploit new ones. In six years (1822–28) six powerful English companies, with a combination capital of 3,000,000 pounds sterling, entered the Mexican field. Among these companies were: The United Mexican Mines Association, owning mines in many states of Mexico; the Anglo-Mexican Company, which also acquired many mines; and the Real del Monte Company. These English companies did what the Spaniards had never been able to do. They transported powerful modern pumping and other machinery over apparently insurmountable sierras and made it possible to work the rich ore below the water level of vice-regal days. They thus practically created new mines. Among these British investments are included most of the famous mines of those days; Valencia, Mellado, Villalpando, La Luz, Charcas, Catorce, Fresnillo, San Ildefonso, San Dimas, San Francisco, Guanaceví, Parral, Santa Eulalia, Batopilas, Real del Monte, Santa Gertrudis, Blanco, El Oro, Temascaltepec, Bolaños, Tezhuitlán (famous copper district), Taxco and Real del Castillo.

## From Diaz to Madero

From 1857 to 1883 the control of the Mexican mining laws was in the hands of the officials of the state governments. This did a great deal of harm to mining interests, created confusion and laid the door wide open for grafting. So in 1883 the federal government was forced to assume charge of the direction of all mining affairs. At the same time a commission was appointed to consider the mining situation and to reform the mining laws, which it did in such a liberal spirit that mining again took a fresh and vigorous start.

Porfirio Diaz began his adminstration in 1876 with a broad view of the necessities of his country. He extended the hand of welcome to capitalists of all nations who might help him to realize his dream of a greater and more prosperous Mexico. When Diaz returned to power in 1884 after Gonzalez' four years of office, he continued vigorously the policy of encouraging the mining interests of the country, which during his first term of the presidency (1876–80) had reached the value of $103,000,000 gold

and silver, with the additional potential energy of hundreds of new mining claims registered, properties opened up and many abandoned mines put into operation once more. About this time American, German and French capitalists appeared upon the scene and began to compete vigorously with English investors for a share in the Mexican mining business. By 1884 this competition had already become strong, and from then on it grew in intensity until, in 1913, when the revolution practically halted mining throughout the republic, it had assumed large proportions. Of the newcomers the Americans were the most aggressive. In 1884 Edwin Ludlow, representing American capitalists, began boring for coal in Mexico; and five years later the great coal deposits of Coahuila, at Sabinas and other points, were in full operation. In the 10 years following 1895 over 6,000,000 tons of coal were mined in Mexico, and by 1910 the output had reached 1,500,000 a year. The discovery and exploitation of coal in the republic gave great impetus to mining and other industries.

Between 1885 and 1910 Lower California, Michoacán, Coahuila, Sonora and Puebla became great copper-producing states and as such attracted large sums of foreign capital, American and French; and the production of copper rose from 11,620 tons in 1895 to 55,000 tons in 1905. Owing to the slump in the price of this metal, this increase was not kept up during the next five years. Copper and petroleum and its products were, however, the only mining interests that continued active throughout the revolution, the output of the former being valued, in 1912, at $38,500,000. Mexico ranks easily in second place among the great copper-producing countries of the world. In 1906 official returns showed in the republic 35,087 copper mines and mines containing copper values. After eight years of exploitation of antimony Mexico had, in 1910, became the world's greatest producer of this metal, with vast deposits still untouched. Two years later her production of antimony had reached almost $2,000,000 per annum.

At the beginning of the first Diaz administration capitalists began to pay attention to the gold deposits of the country, with the result that, between that date and 1909, considerably over $1,000,000,000 gold was mined. Even in 1912, notwithstanding the revolution, the gold mined was valued at over $50,000,000, while the fiscal year 1908–09 had produced $62,700,000. In 1894 the introduction of the cyanide process began to replace the old patio process, thus giving an added impetus to the mining of low grade ores which helped the mining business very materially. A few years later foreign capitalists began the utilization of water

power for the production of electrical power, and electrical plants appeared in different parts of the republic. Of these the most extensive and important is that of Necaxa which supplies the power to light the City of Mexico and to run the tramways and many of the factories of the Federal District. It also furnishes 30,000 horse power to El Oro and furnishes electrical energy to other neighboring mining centres, including Pachuca. Mexico, on account of its mountainous nature, possesses a real wealth of water-power, which must soon be brought into use to develop her vast mineral riches, a very considerable part of which, owing to adverse natural conditions, still remains untouched.

The most noteworthy development of the mineral wealth of the republic of recent years is to be found in the vast petroleum fields stretching down the Gulf coast from Matamoros to Campeche, and probably farther, for the southern end seems to consist of the oil fields of Colombia. So great are these fields and so vast their wealth that Mexico must soon become the first oil-producing country of the world. Although oil was known to exist in Mexico for many years, it was not until 1901 that the Mexican Petroleum Company, a California corporation, began prospecting for oil in the neighborhood of Ebano, near Tampico. About the same time W. Pearson & Son came into the field, with unlimited English capital. Then followed a rapid development of the oil fields near Tampico and on the Isthmus of Tehuantepec, Tuxpam, Minatitlan, the Papantla district and other points in the neighborhood. By 1907 the production of oil in the republic had reached 1,000,000 barrels a year and by 1913, 16,746,000. Two years later the output was 35,000,000 of which about 75 per cent was exported. The returns in the near future promise almost double that of 1915 owing to the great well of the Mexican Petroleum Company opened in December 1915, which is said to exceed in flow the whole oil output of the state of California. (See article MINERAL INDUSTRIES, p. 683.)

## TRANSPORTATION AND COMMUNICATION

Before the white man had set foot in Mexico the various nations then occupying what is now the Mexican republic had built many well-paved roads and innumerable mountain trails, in all probability better than the trails of to-day, if we are to judge them by their still existing remains, and by the ruins of the great and populous cities whose arteries they were. These Mexican roads

became a necessary part of the life of the nation. They were the highways for the armies going forth to conquest or to defend the outposts of the empire; they constituted the thoroughfares over which the great merchant expeditions, often forming hosts as large as the armies of the sovereign, carried the commerce of the nation to the ends of the country and to the civilized peoples beyond. Over them, too, went the couriers of the court and of the postal and telegraph services whose efficiency awakened great admiration in the Spanish conquistadores; they were indispensable for the collection of the internal revenues and the constant exchange of hostages and provincial representatives whose presence in Tenochtitlán was insisted upon by the later Aztec rulers, as a guarantee against insurrection or treachery in the recently conquered provinces. They formed the great arteries of the communication system of the religious life of the nation over which thousands of pilgrims came yearly, from long distances, to the popular national shrines. Many of these highways, with their subsidiary local roads, consisted of foundations of stone covered with cement which, after four centuries of neglect, is often well preserved to-day beneath the accumulated debris of the tropical forests.

### Spanish Ways of Communication

In the first years following the conquest, Spain made use of the native highways, which, for a quarter of a century, were left unrepaired. In fact, for more than 50 years only the main highways and the roads leading to the great mining camps received any attention from the government. Owing to the neglect of agriculture in favor of mining, in which great fortunes were made, many districts, once centres of dense population in pre-conquest days, became deserted; for whole populations were moved to mining centres or concentrated in cities and towns, or placed on ranches of rich Spaniards. Thus the whole communication system of the natives became disarranged and neglected and finally all but the main highways began to disappear, as centres of commerce and trade shifted and the transportation of ore claimed the chief attention of the government, while port towns became of more importance in the social economy of the province than the great inland cities.

But as Spain gradually extended her power over her vast trans-Atlantic domains, and as peace became established everywhere upon a firm basis, bringing with it an extension of mining, commerce and trade, the necessity for an extensive system of highways between the inland cities and the ports and between city

and city became apparent. The Spanish government, ever alive to its own interests, began the construction of the *caminos reales*, or king's highways, which, a century after the conquest, had already connected together all the centres of commercial importance in New Spain. The extension of these highways continued during the following two centuries. Like the Roman, the Spaniard builded for posterity; and to-day, after a century of neglect, many of these old Spanish roads are still in use throughout Mexico.

### Transportation Facilities of the Republic

Throughout the revolutionary period (1810–21) transportation facilities of every kind in Mexico were neglected, on account of the activity of the revolutionists and the exhausted condition of the Spanish treasury after the Napoleonic wars. From 1821 to 1876, the new republic formed upon the ruins of the government of New Spain was so occupied with its own local dissensions that it found little time to give to the upbuilding of highways and byways of communication. Yet it was toward the close of this period of unrest that the first railway was built in the republic. In 1854 a line connecting Mexico City and Guadalupe, a distance of three miles, had been constructed; and a year later Veracruz was connected with Tejeria (12 miles). These were the two extreme ends of a railway by means of which it was proposed to give the capital an all-rail route to the first port of the republic. But so slow was the work of construction that it was not until 1873 that this comparatively short line (263 miles) was completed.

Practically no other railway construction was undertaken in Mexico until after the election of Porfirio Diaz as president in December 1876. In November of the following year, the secretary of public works signed a contract with James Sullivan and his associates for the construction of a railway line from the United States border to Mexico City, and from there to the Pacific Ocean. But Sullivan found difficulty in getting the capital necessary to build the proposed lines. In 1880 a strongly-subsidized concession was granted to the Mexican Central Railway Company, organized in Denver to build a wide-gauge railway from El Paso to the Mexican capital; and about the same time the Sullivan concession was extended and re-arranged so as to empower the holders thereof to construct a narrow-gauge railway from Mexico City to Laredo, on the Texas border. Both these lines were eventually built. From 1880 to 1898 hundreds of railway concessions were granted by the Mexican government, most of them accompanied with subventions in cash, government bonds and national lands. Such a very active

railway era was inaugurated that, in 1890, the government found it necessary to create the new Department of Communications and Public Works, at the head of which was a minister of the cabinet. In 1898 Finance Minister Limantour announced that, in the future, the government would give subventions only to roads of great political and financial importance. In the plan for railway extension laid down by Mr. Limantour at this time were included a road to connect the centre of the republic with some Pacific coast port, Guaymas or Topolobampo preferred; a line from the interior to Mazatlan; another from the interior to Manzanillo and a fourth to Acapulco. The plan also included lines to connect the capital with Acapulco and Tampico. The following year a new general railway law was issued in order to co-ordinate the work of the minister of finance and to govern the roads in existence and those being built.

The most important railway lines of the country were constructed between 1880 and 1890; after which very little building was done until Mr. Limantour took matters in hand in 1898. By 1902 the following roads had been constructed: The Mexican Railway, connecting Mexico City with Veracruz; the Mexican Central, from El Paso to the Capital; the Mexican National, from Laredo to Mexico City; the Sonora Railway, from Nogales to Guaymas; the Interoceanic, from Mexico City to Veracruz; the Tehuantepec National, across the Isthmus of Tehuantepec, from Coatzacoalcos (Puerto Mexico) to Salina Cruz; the Mexican Southern, from Puebla to Oaxaca; the United Railways of Yucatan; and the Pan-American, from San Gerónimo, on the Tehuantepec road, to a point in Mexico close to the border of Guatemala.

In 1906 the Mexican government succeeded in uniting the two great railway lines, the Mexican National and the Mexican Central, with the "National Railways of Mexico." By 1908, the Mexican International, the Pan-American, the Veracruz and Pacific, the Interoceanic, and the Tehuantepec National had been brought under the control of the government and included under the foregoing title of the National Railways of Mexico.

During the revolutionary period from 1910 to 1916 the railroads of Mexico suffered very greatly; much of the rolling stock was destroyed and bridges, stations and other buildings were burned or wrecked. In January 1915, according to a statement of the Mexican minister of railways, the total monthly income of the Mexican National Lines was only 647,000 pesos (paper currency). But in August 1916 the monthly income of these roads had risen to 25,000,000 pesos (paper currency). At the same time the transpor-

tation of freight had become almost normal, notwithstanding the fact that the loss of the National Railways for the fiscal year 1913-14 was $28,835,624, and for the following year $28,909,328. When the Carranza government undertook the management of the railways in June 1915, it had to face a deficit of $41,289,609 United States currency.

## POSTAL SERVICE

In 1912 there were in Mexico 2,917 post offices, branch post offices and postal agencies. In the postal service of the republic about 15,260 miles of railway, 300 miles of street railway and 10,000 miles of steamship routes were in use for the distribution of postal matter. During the year domestic postal orders to the amount of $48,771,821, and foreign postal orders valued at $8,886,979 were issued. During the same period the other income of the postal service was $4,914,640. All the railroads of the country disposable were made use of in the postal service; and they were aided in the work of distribution by messengers, horses, mules and automobiles, on land; by river boats of the interior navigation service; and by some 23 steamship companies, among which were: The Mexican Navigation Company, the Pacific Navigation Company, F. Leyland & Co., Limited, West Indian and Pacific; Imperial German Mail, the Harrison Line, the New York and Cuban Mail Steamship Company, the Munson Steamship Line, the Atlantic and Mexican Gulf, the Southern Steamship and Banana Company, the Canadian Mexican Atlantic Line, the Kosmos Line, the Chinese Imperial Steamship Company and the Toyo Kisin Kaisha. There were 158 traveling post offices, principally on trains. During the year 26 new post offices were opened to the public. The parcel post service, which was instituted a few years ago, has proved of great value and is, year by year, securing more patronage. The government proposes to extend the scope of this service and to make it of still greater utility. Owing to the revolution the postal operations were crippled during 1912 as they were during the following four years.

## BANKING AND FINANCE

The Mexican people have long shown a capacity for finance. In pre-Columbian days, the financial arrangements of the Aztec empire were complicated and extensive; and the keeping

of the accounts of the tribute rolls was in itself a matter that required more than ordinary executive ability, in an age when the whole income of an empire several times larger than modern Germany, and densely populated, was paid in produce of various kinds. This required vast storehouses in Mexico City and substations for customs receipts in many parts of the land. The Spaniards, too, are keen financiers, and the mingling of the two races has produced a blend and a nation which has made great financial advancement during the past quarter of a century. Unfortunately, the revolution of 1910 has temporarily checked this financial expansion; but this retardment cannot be for long.

The first financial establishment in Mexico that may be dignified by the name of bank, was founded, in 1776, in connection with the charitable organization still known as the Monte de Piedad (National Pawnshop). It handled mortgages, issued loans on landed and other property and circulating notes in commercial transactions, for more than 100 years. Several times it was in difficulties, but so great was the aid it lent to the community in general, that it succeeded, each time, in getting again on its feet. The first real bank organized in Mexico to do business in accordance with modern methods was the Bank of London and Mexico, which was established in the City of Mexico in 1864, with a capital of $500,000. Its reserve was finally raised to $30,000,000 shortly before the revolution of 1910, but was reduced to $10,000,000 in 1913 on account of the unsettled condition of the country. Previous to this date, the paper currency in circulation in the country had been issued by certain banks which had been granted concessions to this end. At first the National Bank of Mexico had a monopoly of this right, or claimed to have; but the government disregarding it, gave concessions of a like nature to other federal and state banks. Finally an amicable arrangement was made with the National Bank, whereby it waived the rights in this respect which it had claimed. Then began an era of great prosperity in Mexican banking. Modern methods were introduced in the native institutions and foreign banking houses established important branch houses. These represented capital and institutions from nearly every country in Europe and from the United States and Canada. None of these foreign banking houses, however, had concessions to issue paper currency. They formed one of the most powerful factors in the development of the finances and the resources of the country and became the great medium of exchange between Mexico and the outside world.

As the Constitutionalist party began their campaign without money or credit, they were forced to issue paper money of many different kinds, which went as low as one per cent of its face value. As the military campaign became more extended and intensive more arms and ammunition were needed, and more paper currency was issued. The Madero revolution had been financed with coin, for the backers of Madero and he and his family were wealthy; but Carranza was not in this fortunate condition. It was, therefore, after the disappearance of Madero from the political scene, that the finances of Mexico began literally to go to pieces. Carranza had possession, in the beginning of his career, of only two or three minor ports of entry upon which to depend for any financial assistance from export and import duties. Thus the Constitutionalist party piled up obligations to the extent of 700,000,000 pesos Mexican currency back of which there was no assurance of redemption or any substantial backing of any kind. In addition to this, the country was flooded with the currency of other contending parties and with counterfeits of all paper afloat. Thus the amount of paper currency in circulation in the republic in 1916 when the Carranza government began to come on top, will probably never be known. After the recognition of the Carranza provisional government by the United States, considerable attention was paid to the solution of the currency question, which had become of urgent importance. It was finally resolved to make a new issue of 500,000,000 pesos at the rate of 10 cents United States currency for one peso. This value was to be maintained by the sale of gold drafts in New York at the rate specified, in exchange for the new paper. It was to be received, at this rate, for duties, by the government. This was known as the Non-counterfeitable Issue, and was to be issued gradually in payment of salaries and other government expenses at the rate of about 50,000,000 pesos a month. However a very considerable part of the taxes imposed by the Federal government had to be paid in silver. These included all export and import duties. The greater part of this went to swell the guarantee or reserve fund behind the new paper currency issue. At the same time that this new issue was being put into circulation steps were being taken to retire all the former issues authorized by the Constitutionalist party, whether state or federal. To this end all the bills of 20, 50, 100 pesos were declared (1 June 1916) no longer of compulsory acceptance and the holders thereof were notified to turn them in to the government, upon which they would get receipts promising redemption in specie, beginning 1 October, at the rate

of 5 cents United States money (10 cents Mexican silver) for the peso. As the market value of this currency was only about two cents and as it had previously fallen as low as one-half a cent, the offer was a very liberal one and had the desired effect. In order to further facilitate the retirement of the old paper currency, all railway and telegraph dues were made payable in it up to 1 Jan. 1917. Owing to this clever campaigning on the part of the government, the metal currency, which had gone into hiding shortly after the outbreak of the revolution, began to reappear in 1916, with the increase in confidence in the stability of the Carranza government.

As has been already stated, Mexico never had any national paper currency previous to the outbreak of the revolution of 1910, the bills in circulation being all bank issue, which were kept at par value by a reserve of 50 per cent of the amount in circulation, which was exacted and guaranteed by law. During the revolution the banks nearly all violated this provision, issuing notes far in excess of their reserve. The Carranza government, after an investigation, gave the offenders a certain time in which to make good the required deposits under pain of being closed up. This caused the rapid decline of the value of bank notes throughout the republic, both state and federal. In order to further guarantee the stability of the Non-counterfeitable Issue, $5,000,000 gold was taken from the national treasury and an additional $5,000,000 gold was obtained as a loan from the Henequen Regulating Committee of Yucatan; and all bank issues of paper currency were ordered withdrawn from circulation, the government thus retaining, in conformity with the provisions of the constitution, a monopoly of the issuing of all money, whether paper or metal, in the republic (15 Sept. 1916). The income from national lands and forests was also ordered paid in gold; and this too went to back up the new paper issue. Over $10,000,000 gold was also obtained from uncultivated parts of great estates which had previously paid little or nothing in the way of either federal or state taxes. At the same time all the banks in the republic were placed under the strictest government supervision, and those which had not complied with the conditions laid down as to currency reserve were permitted to do business only through a government interventor, who was empowered to see to their liquidation. None of these banks could issue any specie without the consent of the government. At the same time the duties were divided into four classes; those payable in metal only; those payable in metal or the equivalent thereof in national paper currency of the new issue

those payable in the new paper issue; and those payable in the new issue or the equivalent thereof in the paper issues of Veracruz and the Constitutionalist Army. The new paper currency issue was distributed as follows: 80,000,000 one peso bills, 60,000,000 two peso bills, 75,000,000 five peso bills, 75,000,000 ten peso bills, 70,000,000 twenty peso bills, 75,000,000 fifty peso bills and 75,000,000 one hundred peso bills. All this work of the reorganization of the currency and the finances of the nation was placed in the hands of a commission of five members, all of whom had had considerable experience in monetary matters, and who were required to report to the treasury department, under whose direction they were working.

It is interesting to note that the principal banks of issue in Mexico had, 30 June 1911, the following paper currency in circulation: National Bank, $54,841,000; London and Mexico, $19,278,000; Other banks, $42,535,000; total, $116,654,000.

There were issued by the government, in 1910, 6,206,000 silver coins worth $2,927,000; 6,146,250 nickel coins valued at $307,312; and 19,450,000 bronze coins worth $194,500.

In the fiscal year ending 30 June 1911, the consular fees were $1,163,341; the general stamp tax amounted to $15,271,000; the taxes on mining land to $1,934,000; on ores and metals $2,365,000; tobacco $2,760,000; alcohol $870,000; cotton goods $2,517,000; explosives $5,334; direct taxes $6,295,000; municipal taxes $5,133,000; postal service $4,775,000; telegraphs $2,255,000; and lotteries $1,255,000. During the same period the importations amounted to $47,500,000; the exportations to $435,000 and the port duties to $1,985,000, making a total income from foreign commerce of $48,985,000, exclusive of export duties.

Owing to the fact that the revolution of 1910 and succeeding years divided the country into several factions, each of which controlled its own section of country and was more interested in maintaining its ground than in furnishing statistics, such as the Mexican government put forth annually previous to 1912, definite information relative to the financial and other conditions of the country from 1913 to 1917 is not available, except in a general way; and even this covers only that part of the republic under the control of the Constitutionalist party, which was able, largely, to finance the administration through the sudden enormous increase of the oil interests of the republic and the rise in the price of oil itself on account of the European War.

The finances of Mexico, which were in a deplorably bad condition in 1876, when Gen. Porfirio Diaz assumed the presidency

for the first time, continued to steadily improve throughout his seven terms of office until, on his re-election for the eighth time in 1910, they had reached such a position that the Mexican government had secured a solid standing in the money markets of the world.

The public debt of Mexico, which has never been large for the potentialities of the nation, began with a 5 per cent loan of 3,200,000 pounds sterling contracted in England in 1824, which was increased by a like amount at 6 per cent the following year. The interest on these two loans was not paid from 1827 to 1831; and even after this latter date it was met only intermittently and was, therefore, the cause of many disagreeable complications which have become part of the history of the Mexican national debt, which itself became mixed up with political events of primary importance. In 1886 these two first foreign debts of the Mexican nation were consolidated with the national debt. Previous to this, however, they and other loans contracted in 1831, were consolidated into one national debt of 9,247,387 pounds sterling, in 1837; and this agreement was again ratified in 1839. In 1846, the whole Mexican foreign debt, including interest due and unpaid, together with certain internal bonds and other unfunded liabilities, were again consolidated into one national debt of 10,241,650 pounds sterling in bonds of the 1846 issue, for the payment of which one-fifth of the customs receipts of the ports of Veracruz and Tampico, the duty on tobacco in all forms, and the silver export duties on ore sent out by way of the Pacific ports were pledged. During the war with the United States the American forces seized and retained Veracruz and Tampico and the Mexican government was thus unable to meet its foreign obligations. In 1850 another attempt was made to meet the foreign indebtedness of the nation through its conversion into new bonds bearing 3 per cent and guaranteed by 25 per cent import duties and 5 per cent of the Gulf ports and 75 per cent of the Pacific ports duties, which were to be employed for the payment of interest on the bonds and their redemption.

In 1864, by a decree of the Imperial government of Maximilian, government stock to the amount of 4,864,800 pounds sterling was issued and was accepted by the original bondholders in payment of arrears of interest. The same year the Imperial government secured a second loan of 12,365,000 pounds sterling in Paris and London; and this loan was practically all converted into the Mexican Imperial Lottery Loan with a face value of 20,000,000

pounds sterling. Both these transactions were repudiated by the Republican party on the overthrow of the Empire in 1867. However a part of the debt of the Empire was subsequently recognized during the Diaz administration.

In 1888 a 6 per cent loan of 10,500,000 pounds sterling was contracted in London, Berlin and Amsterdam, 20 per cent of the export and import duties and all the direct taxes on industries and landed property and buildings in the Federal district being pledged to meet the obligation thus contracted. The following year the Tehuantepec 5 per cent Railway loan of 2,700,000 pounds sterling was made in London and Berlin and a year later silver currency bonds to the amount of $6,700,000, bearing interest at 6 per cent were disposed of in London and Amsterdam to meet certain pressing obligations for railway concessions and construction; and the same year another loan of 6,000,000 pounds sterling was made in London, Berlin and Amsterdam for the same purpose. Three years later a 6 per cent loan of 3,000,000 pounds sterling, secured by 12 per cent of the import and export duties, was contracted in London. In 1894 the government created the 5 per cent Interior Redeemable Debt, with a view to a single new issue in which all future subventions to railways should be paid. This debt consisted of five series of $20,000,000 each. In 1899 the 5 per cent Internal Consolidated Gold Loan of 22,700,000 pounds sterling, redeemable not later than 46 years, was issued to convert the 1888, 1890, 1893 6 per cent loans and 1889 5 per cent Railway Loan. In 1903 the federal government assumed obligation to the extent of 2,400,000 pounds sterling for the payment of the City of Mexico 5 per cent drainage loan, to meet the expenses of the drainage of the capital. The following year a 4 per cent gold bond issue of $40,000,000 was made in London, New York and Amsterdam, partially through banks and partially privately, to meet various pressing obligations of the government. In 1910 the final loan of the Diaz government was made at 4 per cent for 22,200,000 pounds sterling, with a view to the conversion of the 1899 5 per cent loan. Finally, in 1913, a loan of $200,000,000 was authorized, of which $60,000,000 was placed in France, with a guarantee of certain export and import duties.

In June 1910, the public debt of Mexico was $300,524,996 (Mexican silver) payable in gold, and $137,850,133 payable in Mexican silver, and an additional debt of $273,398 (Mexican currency), making a total of $438,648,528 in Mexican silver, against the payment of which there was on deposit $8,000,000 (pesos).

On the same date there were in Mexico 33 banks, 25 of which were banks of issue; all of which were then doing business on a gold basis which had been introduced into Mexico in 1905 on the basis of a 50 cent dollar.

For the fiscal year ending 30 June 1913 the revenue of the Mexican government was $120,958,902 Mexican currency against an expenditure of $110,781,871, a very considerable increase having taken place in five years, when the revenue was only $98,775,510 and the expenditure $92,967,393. It is worthy of note that, even with the revolutionary activity then prevailing, the revenue of the government was, in 1912–13, $15,755,816 greater than that of the preceding year.

This federal revenue is, for the most part, derived from stamp taxes, direct taxes and import and export duties.

Although the finances of the Constitutionalist government had improved considerably in 1917, yet the disorganized condition of the country and of many of the banks, both state and federal, and the loss of credit brought about by the long revolutionary period, made the task of the Constitutionalist party of straightening out the financial affairs of the country very difficult. Money was badly needed; and this the great money centres seemed unwilling to advance until greater guarantees for the stability of the government should be forthcoming. Working under this handicap, the government steadily pursued its ends with as much success as could be well expected under the circumstances.

## ARMY AND NAVY

Owing to the many revolutions and upheavals through which Mexico has passed since it became an independent country in 1821, the armed forces of the republic have been a constantly varying quantity. At the time of the collapse of the Maximilian empire in 1867 there were four great military centres, the north, the west, the centre and the southeast. When Porfirio Diaz took the City of Mexico in 1867 he had under his command more men than he had in the whole military force of the republic in 1910, when he was faced with an uprising which was destined, in less than a year, to send him into exile from which he never returned.

Juarez, who, on the death of Maximilian, was acknowledged everywhere as the legitimate ruler of Mexico, found one of his greatest problems in the reduction of the armed forces which he

had inherited from the prolonged conflict against the French, the clericals and the Reactionary party. He proceeded to solve it by dismissing from service hundreds of soldiers and officers, many of whom, being unfitted for civic life and having no means of making a living, became a constant thorn in the already troubled side of the executive. Bandits roamed the country and made so bold as to even invade the capital itself. Robbers, on a less pretentious scale, were everywhere; and most of them had either been formed from or organized by the dismissed soldiers of the republic or the forces of the Reactionary party.

Diaz faced the same condition of affairs when he came into power in 1876. But he was wiser in his day than Juarez had been in his, probably because he was a thorough soldier and understood the soldier's point of view. He saw, in the very restless element that had given the Indian president so much trouble, the raw material out of which to create a rampart against the lawlessness that had overrun the land. In the course of a few years he had organized out of this unpromising material the *rurales* (rural guard), which became as famous in Mexico as the North-west Mounted Police is in Canada. These guardians of the peace, which were to be found in organized groups in the towns, cities and villages throughout the country, were military in every sense except that they were under the jurisdiction of the Department of the Interior (Gobernación) instead of that of war. However, in the last few months of the Diaz administration (1911), the *rurales* were placed under the jurisdiction of the War Department, for strictly military considerations. Throughout the trouble they remained, for the most part, faithful to the government, but becoming later on disorganized through the many political changes that followed one another in rapid succession, they were finally disbanded.

Throughout his long term of office, which extended from 1876 to 1880 and from 1884 to 1911, General Diaz gradually reduced the military force of the republic and aimed at increasing its efficiency. In 1910 the standing army of the republic consisted of less than 1,000 commissioned officers of all grades and less than 25,000 non-commissioned officers and men. Thus the government, which had been lulled into fancied security, through the years of peace which had followed the assumption of the presidency by Diaz, found itself unprepared to deal with a revolution like that of Madero, which affected the greater part of the country. The peace standing of the Mexican army was, in 1914: Commissioned officers, 3,112; non-commissioned officers and men, 26,431.

The expenses of the maintenance of the armed forces of the republic, the garrisons, etc., was, in the fiscal year ending 30 June 1914, over $40,000,000 Mexican money, or more than one-third of the whole revenue of the republic. As this amount embraces only the forces of the de facto government, it is probable that nearly as much more was spent in the maintenance of the revolutionary forces then in the field against the de facto government. On 30 June 1916, A. G. Garcia, Mexican inspector of consulates stationed in the United States, gave the strength of the Constitutionalist army as 175,000 officers and men, all of which he claimed were well armed and uniformed. Other authorities place the Constitutionalist forces at between 85,000 and 100,000. This is considerably above the authorized peace strength which is 43,967, commissioned officers, non-commissioned officers and men.

During the Diaz régime many new barracks were built and many old ones were reorganized and made modern. A school of *Aspirantes* (officers in training) was opened at Tlalpam, in the Federal District a short distance from the capital for the military instruction of men in all branches of the service who could not afford to go through the longer and more thorough course given in the National Military School in Chapultepec. Owing to the part the pupils of this Tlalpam school took in the uprising under Generals Mondragón, Diaz and Reyes in February 1913, it was closed. The West Point of Mexico, however, is the Chapultepec school, which occupies a part of the famous Chapultepec building, the official residence of the President of Mexico. There are generally in attendance about 300 students all being trained for officers in the Mexican army at the government expense. The school also offers an excellent post-graduate course in advanced engineering, topography, military jurisprudence, ordnance, military history, advanced military tactics and an extensive course in the geography of the country which, from the military point of view, is extremely difficult. The present Constitutionalist government, following in the footsteps of the Diaz administration, is attempting to educate the illiterate soldiers in the ranks of the army, or at least to teach them to read and write.

According to the recent amendments to the Mexican constitution, service in the army is obligatory on every citizen of the republic, and in time of war the conscription covers from three to five years; but as a matter of fact only the lower classes are forced into the army. In time of peace the Mexican army now consists of 34 battalions of infantry, 18 regiments of cavalry, 1 regiment of horse artillery, 2 regiments of field artillery, 1 reg-

ment of mountain guns, 2 battalions of garrison artillery and 1 battalion of engineers, each battalion consisting of 4 batteries. On mobilization each 4-company battalion (including the engineers) forms a regiment of 2 battalions while the 4-battalion regiments are raised to 6 battalions and the cavalry regiments to 6 squadrons.

Owing to the difficulty which the Constitutionalist government has met with in securing arms, the armament of the forces is of various kinds, including various Mauser models for the infantry, and Remington rifles of a date as far back as 1893, the Mauser carbine for the cavalry and other arms of German and Japanese make. The field and horse artillery have Q. F. guns on the Schneider-Canat system; while the coast defence consists, in so far as it is modern, principally of guns of French make.

### The Mexican Navy

The navy consists of the gunboats *Veracruz, Zaragoza, Bravo, General Guerrero,* and *Morelos,* and the transports *Progreso* and *Oaxaca.* The *Zaragoza* is 213 feet in length, has a displacement of 1,226 tons and a speed of 13 knots, is built of steel and its armament consists of six Canat guns, two Nordenfeldt rapid fire guns and two Hotchkiss revolving guns; the *Veracruz* is 200 feet in length, 1,000 tons displacement, has a speed of 16 knots and is built of steel. It has two Bethlehem rapid fire guns, 6 semi-automatic rapid fire guns and one Whitehead torpedo gun; the *Bravo* and *Morelos* are each 252 feet in length, have 2,500 horse power and a speed of 16 knots; they are built of steel, and each carries two Bethlehem rapid fire guns and six Schneider-Canat rapid fire guns; the *Progreso* is 230 feet in length, has 1,585 tons displacement, a speed of 12 miles, is built of steel and will carry 250 tons of cargo and 600 men, with the usual complement of officers; the *Oaxaca* is 100 feet in length, its tonnage is 979, its speed 7 knots, and it is built of steel and will carry 300 tons of cargo, 200 cattle and 500 men. Reserves are provided for service in the army in case of war, which can, if needed, be made to swell the entire fighting force to almost 500,000 men.

## POPULATION

The official statement of the Mexican government that the population of the country had increased to 8,743,014 in 1869, to 10,791,685 in 1886, to 13,607,259 in 1900 and to 15,063,207 in 1910, does not necessarily mean that the population had increased

at the rate this increase in the census enumeration would seem to indicate, but rather that the gradual pacification of the country under the Diaz administration, the extension far and wide throughout the land of the administrative arms of the government, and a certain decrease in illiteracy had made the work of the census taker more effective. A prominent official connected with the census department in Mexico City expressed it as his opinion, in the presence of the writer, in 1910, that the actual population of Mexico was at that date nearer twenty millions than fifteen millions.

Fundamentally the population of Mexico is Indian and mestizo (a mixture of Indian and European). The official census of 1910 showed about 20 per cent white population; but it must be remembered that a large percentage of the so-called whites have a certain amount of Indian blood in their veins; in fact there are very few of the older families that have not come under this influence.

## POLITICAL DIVISIONS AND CITIES

Mexico is divided politically into 27 States, three Territories, and a Federal District. These with their areas and populations, capitals and populations, are as follows:

| STATES AND TERRITORIES | Area (in square miles) | Population | Capital | Population |
|---|---|---|---|---|
| Aguascalientes | 2,950 | 120,511 | Aguascalientes | 45,[illegible] |
| Baja California* | 58,328 | 52,272 | N. District, Ensenada | 2,[illegible] |
| | | | S. District, La Paz | 3,[illegible] |
| Campeche | 18,087 | 86,661 | Campeche | 16,[illegible] |
| Chiapas | 27,222 | 438,843 | Tuxtla Gutiérrez | 10,[illegible] |
| Chihuahua | 87,802 | 405,707 | Chihuahua | 39,[illegible] |
| Coahuila | 63,589 | 362,092 | Saltillo | 35,[illegible] |
| Colima | 2,272 | 77,708 | Colima | 25,[illegible] |
| Durango | 38,020 | 483,175 | Durango | 31,[illegible] |
| Federal District | 464 | 720,753 | Mexico | 471,[illegible] |
| Guanajuato | 11,370 | 1,081,651 | Guanajuato | 35,[illegible] |
| Guerrero | 24,996 | 594,278 | Chilpancingo | 7,[illegible] |
| Hidalgo | 8,917 | 646,551 | Pachuca | 30,[illegible] |
| Jalisco | 31,846 | 1,208,855 | Guadalajara | 119,[illegible] |
| Mexico | 9,247 | 989,510 | Toluca | 31,[illegible] |
| Michoacan | 22,874 | 991,880 | Morelia | 40,[illegible] |
| Morelos | 2,773 | 175,594 | Cuernavaca | 12,[illegible] |
| Nuevo Leon | 23,502 | 365,150 | Monterey | 18,[illegible] |
| Oaxaca | 35,382 | 1,040,398 | Oaxaca | 33,[illegible] |
| Puebla | 12,204 | 1,101,609 | Puebla | 96,[illegible] |
| Querétaro | 3,536 | 244,663 | Querétaro | 35,[illegible] |
| Quintana Roo* | 18,686 | 9,109 | Santa Cruz de Bravo | 2,[illegible] |
| San Luis Potosí | 25,416 | 627,889 | San Luis Potosí | 69,[illegible] |
| Sinaloa | 33,671 | 323,642 | Culiacan | 13,[illegible] |
| Sonora | 76,909 | 265,383 | Hermosillo | 14,[illegible] |
| Tabasco | 10,072 | 187,574 | San Juan Bautista | 11,[illegible] |
| Tamaulipas | 32,128 | 249,641 | Ciudad Victoria | 19,[illegible] |
| Tepic* | 11,275 | 171,173 | Tepic | 16,[illegible] |
| Tlaxcala | 1,995 | 184,171 | Tlaxcala | 2,[illegible] |
| Vera Cruz | 29,201 | 1,432,550 | Xalapa | 24,[illegible] |
| Yucatan | 35,278 | 339,613 | Merida | 62,[illegible] |
| Zacatecas | 24,757 | 477,556 | Zacatecas | 25,[illegible] |
| Islands | 1,569 | | | |
| Total | 767,005 | 15,112,678 | | |

Territories.

## Mexico City

The capital of the Republic and the largest and finest city in Latin North America, is situated in the Federal District, 7,350 feet above sea level and 263 miles by rail from Vera Cruz on the Gulf of Mexico, 290 miles from Acapulco on the Pacific, 839 miles from Nuevo Laredo on the United States frontier, and 1,224 miles from El Paso, Texas. It is the political, financial, and commercial centre of the Republic and is also an important manufacturing centre. The city is healthful and the climate moderate. It contains many beautiful buildings, has fine, well paved streets, and is covered with a network of electric street railways. There are over 150 manufacturing establishments in the city, producing linen, cotton, silk textiles, leather, boots and shoes, alcohol, beer, flour, cigars and cigarettes, chocolate, hats, ice, furniture, pianos, matches, glass, soap, bricks, carriages, etc. Textiles and cigarettes are the most important products. The city has a good water supply and a modern drainage system was completed in 1900. It ranks among the great engineering enterprises of modern times. Sewers carry the waste of the city to a canal starting from the San Lázaro gates and reaching 43 miles to the town of Zumbango, where the canal empties into a tunnel dug through the mountains for 32,869 feet to a river which carries the sewage to the Gulf of Mexico. It is the official residence of the United States Ambassador to Mexico and the seat of a United States consul-general.

## Chihuahua

The capital of the State of the same name, is situated on the Chihuahua River, 4,650 feet above sea level, on the Mexican Central Railway, 250 miles south of El Paso, Texas, and 974 miles north of Mexico City. It is regularly built and has broad, well-kept streets. It is the centre of a rich silver-mining district and has large stock raising and industrial interests. It has large cotton and woolen mills. It is the seat of a United States consul.

## Aguas Calientes

The capital of the State of the same name, is situated on a plateau 6,000 feet above sea level, 300 miles north of Mexico City. It is the commercial centre of the state and has several local manufactures, including tobacco, pottery, tanneries, distilleries, cotton mills and railway shops. It exports copper, lead, silver bullion, and hides to the United States and is the scene of a great annual fair in December of each year, lasting two weeks. It is the seat of a United States consul.

## Durango

This city is situated on the Funal River and on the Mexican International Railway, 480 miles northwest of Mexico City. It is 6,321 feet above sea level, in a valley near the famous iron hill of Cerro del Mercado. The city is well built, has several handsome edifices, is lighted by electricity, and has street railways and telephone service. Agriculture, stock raising and mining are the chief occupations. It has also cotton and woolen mills, flour mills, sugar cane works, foundries and tobacco factories.

## Guadalajara

The capital of Jalisco, is situated near the Río Grande de Santiago, 3,600 feet above sea level, 285 miles northwest of Mexico City. It is well built, has well paved, wide streets and many squares. It has many noteworthy buildings and is an important educational and scientific centre. It has a good water supply, has electric lights and street railways. There are cotton and flour mills, tile works, a tannery, and a shoe factory. Large quantities of manufactured goods, including machinery, are imported from the United States. The surrounding district is a fertile agricultural region and is rich in silver mines. It is the residence of a United States consul.

## Guanajuato

This city is situated at an elevation of 6,000 feet in the Cañada de Marfil, 165 miles north of Mexico. It has narrow, tortuous streets, but is fairly well built. It is the centre of a large silver mining district. It has electric light and manufactories of soap, chemicals, pottery and some silverware. The water supply is excellent. It is the seat of a United States consular agent.

## Vera Cruz

The most important port of Mexico is 193 miles (by rail 263) from the capital, on the Bay of Campeche. The location is unhealthful, but harbor improvements, new sewage and water systems, reclamation of waste lands, and modern pavements have greatly improved it. The city is well built. Fishing and commerce are the principal occupations. It has manufactories of cigars, preserved fruits, furniture, textiles, toys. The harbor has ample dock facilities and is a safe refuge for vessels at all times. Vera Cruz exports various ores, coffee, chicle gum, tobacco, rubber, sugar, hides and dyewoods to the amount of $42,000,000 yearly. The imports consist of textiles, machinery, iron and steel manufactures, coal and firearms and are valued at $40,000,000 annually.

## Other Cities

Saltillo, 45 miles southwest of Monterey, has important industries including cottons and woolens, knitted goods and flour. San Luis Potosí is 215 miles northwest of Mexico City. It is well laid out and has wide streets and numerous plazas. It is an important railway centre, and has manufactures of woolen goods, furniture, matches, flour, soap, iron and brass, shawls, and cigars. Pottery, mineral products and hides are exported. It is the seat of a United States consul. Puebla, on the Atoyac River, 60 miles southeast of the capital, is a pleasant and well built city, regularly laid out with broad streets. It is one of the most healthful cities of Mexico, and is an important commercial and industrial centre. It contains several cotton and woolen mills, foundries and glass factories, and has railway connection with Mexico City, Vera Cruz, and Oaxaca. Monterey, the capital of Nuevo León, is about 165 miles by rail south of Laredo, Texas. It has well paved and clean streets and has an extensive trade with the United States. Its industries include large smelters, an electric light and power plant, a foundry, breweries, ice factories, and flour mills. Silver mining and agriculture are carried on in the surrounding district. It is the seat of a United States consul.

# CENTRAL AMERICA

By Marrion Wilcox

A CONTINENT of distinct geologic formation, with east and west mountain-folds, at right angles to those of North and South America. Though on the map it appears to be a mere isthmus extending in a southeasterly direction from Mexico to Colombia, between the Caribbean Sea and the Pacific Ocean, it is in fact structurally much more nearly related to the West Indies, including the Gulf of Mexico and the Caribbean Sea, and to the northern coast of South America, than to the main bodies of the larger continents. Probably in the Tertiary period Central America and the Antilles together formed a great island or archipelago lying between North and South America. (Compare Robert T. Hill's *Cuba and Porto Rico*, etc.) This subject will be referred to below, in connection with the mountain system.

## Political Division

Politically, the name groups together Guatemala, Honduras, Salvador, Nicaragua, and Costa Rica, five republics which are characterized in the treaty of peace signed at Corinto, Nicaragua, 20 Jan. 1902, as "the Central American family." The reader will find special articles on these five republics elsewhere in this volume. Moreover, the Isthmus of Panamá at the commencement of its history under the Spanish régime was associated not less intimately with the settlements in the region north and west of it than with those of South America; British Honduras (Belize) also, a colony lying between Guatemala and the Caribbean

Sea, has been connected about equally with the history of the Central American states and with that of Yucatan (Mexico). We shall therefore mention both Panamá and British Honduras in the following historical sketch.

## Mountain System

The mountains described as extending directly at right angles to the cordilleras of North and South America are part of a great Antillean system. East and west mountain ranges of this type occur in the Isthmus of Panamá, Costa Rica, and the eastern parts of Nicaragua, Honduras, Guatemala, and the adjoining provinces of Mexico, also along the Colombian and Venezuelan coast of South America, and in Cuba, Haiti, and the other islands of the Greater Antilles. Two submarine ridges stretching across the Caribbean Sea, between Honduras and the Sierra Maestra range in Cuba, and from Cape Gracias á Dios to Jamaica, are regarded as being genetically a part of the same system. The interesting suggestion is made by Mr. Robert T. Hill that the Caribbean lands before the close of the Tertiary period were much more extensive than now. "Geological surveys," he says, "have proved that during this time of expanding Antillean lands, the Gulf Stream flowed out from the American Mediterranean as now, but through a passage across the northern half of Florida. . . . The great banks of the western Caribbean Sea were at that time projections of land probably connecting Central America with Jamaica and possibly Cuba." Therefore Florida, the Bahamas, the Antilles, and at least the eastern part of Central America, totally severed from North and South America, together formed either one great island, or, more probably, a group of several large islands, with volcanic chains on the east and west, and with characteristic rocks, calcareous and igneous, which have weathered into soils of unsurpassed fertility.

## Volcanoes

A Central American group of volcanoes, with 31 active craters, crossing the western ends of the Antillean folds, occurs on the Pacific side of the republics, from Costa Rica to Guatemala. The central and eastern region is shown by the observations of Mr. P. W. Chamberlain, member of the American Society of Civil Engineers, to be well watered, with comparatively low mountains, very rich soil, and a good climate — except the Caribbean coast which, from Trujillo downward, including the Mosquito territory


ECONOMIC MAP
OF
CENTRAL AMERICA
REFERENCE
Coal
Copper
Gold
Iron
Lead
Silver
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
PANAMA
JAMAICA
HAITI
Gulf of Honduras
Mosquito Gulf
Gulf of Darien
Gulf of Panama
SOUTH AMERICA
CARIBBEAN SEA
PACIFIC OCEAN
MEXICO

is hot and insalubrious. Lack of communication and means of transportation has led to the abandonment of the intermediate lands, the most attractive and extensive part of the country, nearly or quite beyond the influence of the volcanic area. The easily approachable volcanic strip (in Nicaragua, for example, between the lakes and the Pacific) has been preferred hitherto as a place of residence. Thus one who visits only the principal cities in the centre of population, seeing nothing of the naturally richer and better districts, receives the impression that this is the most volcanic region of the globe. The largest volcanoes are in the north — for example, the Acatenango, 14,000 feet elevation, in Guatemala, and in the south — for example, the Irazú and Turealba, of 12,000 feet, in Costa Rica. In Nicaragua the highest, El Viejo, is only 5,800 feet above sea-level. In Guatemala we find the volcanoes, Fuego, Cerro Quemado, El Chato, etc.; in Salvador, Ilopango, San Salvador, and others. Earthquake shocks in the republics last mentioned, and also in Costa Rica, have been, as a rule, very severe, while those of Nicaragua are comparatively mild in force and extend over limited areas. The recorded seismic disturbances that have affected the whole country are those of 1538, 1648, 1651, 1844, and 1865. Central Nicaragua, east of the lakes, Nicaragua and Managua (the largest bodies of fresh water in Central America), is regarded as nearly immune from such disturbances. Nicaragua's centre of volcanic activity is a ridge, the Sierra de los Morabios, between the Cosigüina (whose outburst on 2 Jan. 1835 was considered the grandest on record before the eruption of Krakato in 1883), and the Momotombo. In this ridge are 10 vents, two of which, the Telica and Momotombo, are active, and none can be properly called extinct. Southeast from the Morabios ridge is the isolated active volcano Masaya. The Orosé is in Costa Rican territory. The island of Ometepe in Lake Nicaragua has two volcanoes, one dormant, the other extinct. Comparatively few members of the Central American chain of volcanoes are of the type with which fierce eruptions are commonly associated; moreover, the fertility of the soil on their flanks, due to the high percentage of soda and potash contained in volcanic dust, tempts agriculturists to remain in this neighborhood. It will be noted with interest, also, that the line of the intercontinental railway keeps near to the Pacific coast. It is probable, therefore, that for many years yet to come the best part of Central America — the central districts — will receive only secondary consideration, remaining comparatively undeveloped.

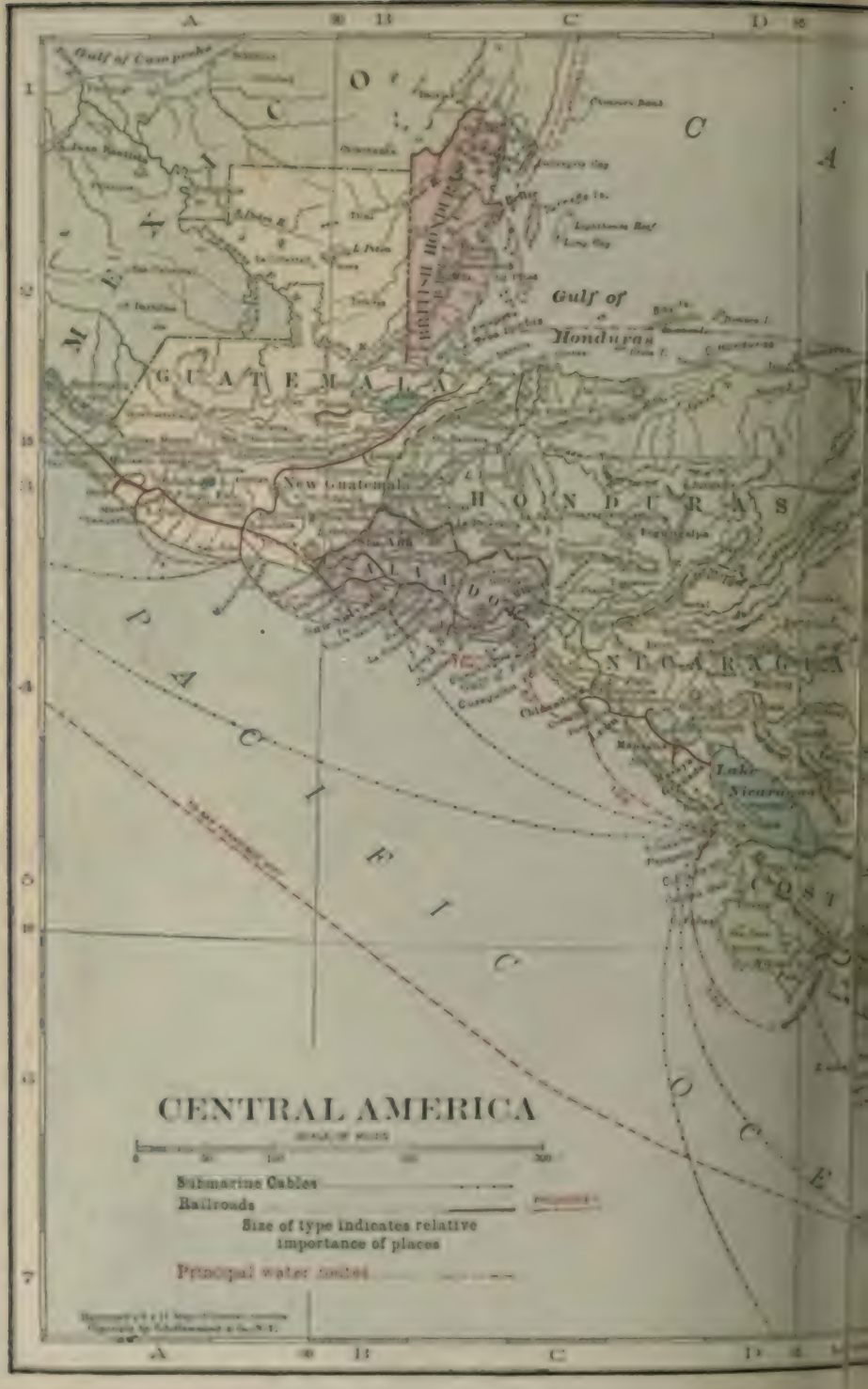
## HISTORY

Rodrigo de Bastidas, a notary of Triana, was the first Spaniard to explore any portion of the Caribbean coast of Central America. He embarked at Cádiz in October 1500; and, after reaching the mainland of South America near the present Venezuelan boundary, coasted westward and made observations of the isthmus from a point below Darien to Nombre de Dios. Columbus, on his fourth voyage to America, sailing from Cádiz 9 May 1502, and stopping at Santo Domingo on the way, arrived off the shore of Honduras July 30. There he heard reports of the wealth of Mexico, but decided to continue the voyage southward, searching for a strait that should lead across terra firma to India. Thus he and his companions, including his son and brother, passed a cape to which they gave the name Gracias á Dios, and on 25 September, reached the river San Juan de Nicaragua, and heard stories from the natives which made them believe they were within a nine-days' journey of a splendid land, such as Marco Polo had described in his veracious account of travels in Asia, and that the river Ganges lay only a little beyond. On 7 October they came to the beautiful Laguna de Chiriqui, and on the adjoining Veragua coast they obtained a large amount of gold by trading with the natives.

Columbus lingered in the immediate neighborhood of the Chagre (now called Chagres) River and Colon — at Porto Bello from 2 to 9 November, and at other points within a few miles for three weeks and five days. Thus during more than a month the great discoverer hovered voluntarily about the spot where the strait he dreamed of was to be cut after four centuries should have elapsed. And when he thought to return by the way he had come, abandoning the search, stress of weather held his vessels back, so that it was not until 6 Jan. 1503, that they anchored in a little river just west of Colon. He wished to plant a colony on the coast between Veragua and Cerebaro, but, hostilities breaking out between the Spaniards and the natives, the former were obliged to abandon their attempt, and once more Columbus passed the place of the future canal, clinging to the shore before setting a straight course for Jamaica.

### First Spanish Colonies

In 1506 Juan Diaz de Solis and Vicente Pinzón sailed along the coast of Honduras westward, exploring the Gulf of Honduras, in search of a passage by water to the Far East — India and


Gulf of Campeche
Gulf of Honduras
BELIZE
GUATEMALA
New Guatemala
HONDURAS
NICARAGUA
Lake Nicaragua
COSTA RICA
PACIFIC OCEAN
CARIBBEAN SEA
CENTRAL AMERICA
Submarine Cables
Railroads
Size of type indicates relative importance of places
Principal water routes


Grand Cayman (British)
JAMAICA
HAITI
Portland Pt.
Pedro Bank
Rosalind Bank
Serranilla Bank
Quita Sueno Bank
Serrana Bank
Roncador Bank
Barranquilla
Cartagena
Barranquilla Pt.
Mosquito Gulf
Gulf of Panama
Panama
Gulf of Darien
Pt. Piñas
Pt. Garachiné
Azuero Pen.
C. Mala
Pt. Pinas
C. Marzo
Puercos Pt.
Medellin
COLOMBIA
PANAMA
SEA
CARIBBEAN

Cathay. Several years passed before the Spanish king, Ferdinand, authorized Alonzo de Ojeda and Diego de Nicuesa to colonize and govern in his name the northern coast of South and Central America. The river Darien or Atrato was made the dividing line between their dominions. The eastern or South American portion was called Neuva Andalucia, and of this Ojeda was made governor; the western division was named "Golden Castile," *Castilla del Oro*, and the command given to Nicuesa. The latter secured the larger number of followers; the former, however, attracted to his standard Martin de Encisco, afterward governor, Balboa, discoverer of the Southern Sea, and Francisco Pizarro, conqueror of Peru. The forces of both governors suffered extreme hardships. Nicuesa's capital was at Nombre de Dios, Ojeda's at San Sebastian — so named because the Indians afflicted them as that saint was tortured. Ojeda returning to Española, where he died, Encisco, Balboa and Pizarro removed the capital of Nueva Andalucia to Antigua del Darien — that is, a point within Nicuesa's dominions; but the natives of Darien did not poison their arrows. In the contest for supremacy that ensued, Nicuesa was the loser. Balboa assumed command, and Antigua became the centre of Spanish enterprise in that part of America. On 25 Sept. 1513, Balboa discovered the Southern Sea, and four days later took possession of it, with all its lands and ports and islands in the name of the king and queen of Spain. Before news of this discovery reached the Spanish court, a successor to Balboa had been appointed in the person of Pedrarias (also called Dávila). In 1517 Balboa was falsely charged with treason, and executed. Pedrarias Dávila, being superseded in command, migrated to the south coast and founded the city of Panamá (that is, the old Panamá, six miles from the present city), 15 Aug. 1519.

A voyage into the unknown northwest from Panamá was made in 1522 by Gil Gonzales, who explored the Dulce and Nicoya gulfs indenting Costa Rica's southern shore. Thence northward 50 leagues he went, to the domain of a chief whose name was Nicaragua, and who dwelt near the principal lake of that region. Gonzales learned that this lake, though lying near the Southern Sea, had an outlet to the Caribbean. In his narrative he says that the discovery is important, inasmuch as only "two or three leagues of very level road separate the two seas." The expedition returned to Panamá in 1523, after baptizing thousands of natives and securing 112,000 *pesos* of gold. On 15 Sept. 1521, Panamá was made a city with royal privileges; the episcopal see was transferred to it; from this base expeditions were sent out toward Peru

as well as into the northwest. Pedrarias, in 1524, dispatched Francisco Hernandez de Córdoba with Hernando de Soto and other captains to Lake Nicaragua. Gil Gonzales, continuing his discoveries in Honduras and Nicaragua, came into collision with de Soto; and only a little later one of the captains of Hernan Cortés, the Spanish conqueror of Mexico, appeared as a claimant for the territory of Honduras.

In the latter part of October 1524 Cortés set out from Mexico, marching to Honduras with an army of about 100 horsemen, 40 archers and arquebusiers, and 3,000 native warriors and servants. After making himself governor of the country, he returned in triumph to Mexico City in May 1526. Pedrarias went to Nicaragua about the same time: there were rival Spanish governors even then in Nicaragua and Honduras. Guatemala and Salvador were overrun by Pedro de Alvarado, second in command to Cortés: the former country, in which a great empire had existed at the beginning of the Christian era, was inspected by Alvarado in 1522, and conquered with a small force of Spaniards and native allies before two years had passed.

### Veragua

In 1535 an unsuccessful attempt to colonize Veragua was made in the interest of the descendants of Columbus (on whom the titles, "Duke of Veragua," etc., had been conferred), and a still more calamitous enterprise was that of Diego Gutierrez, a citizen of Madrid who led an expedition to Costa Rica north of Veragua in 1540. Francis Drake, English privateersman, attacked Nombre de Dios in 1572. Again, in 1595, Drake (now Sir Francis, knighted for his feat of sailing round the world), Sir John Hawkins and others took Nombre de Dios; but an English force of 750 men sent to attack Panamá was defeated by the Spaniards when half-way across the isthmus. Drake, dying on 28 Jan. 1596, was buried off Porto Bello. The conquest of Costa Rica was undertaken by Nicaraguan Spaniards in 1560. Partial success rewarded the efforts of the soldiers; meanwhile, however, great progress had been made in the pacification of that province by the efforts of Franciscan friars.

### Buccaneers in the 17th Century

Captain William Parker, sailing from Plymouth in November 1601, captured Porto Bello. In December 1616 the king of Spain informed the governor of Castilla del Oro that he and the commercial world believed that communication might be established

easily between the oceans by constructing a canal. This was the century of English depredations and of Spanish idle dreaming — Spain's centuries of vigorous expansion having passed. In 1668 the Welsh buccaneer Morgan plundered Porto Bello, his foul cruelty rivaling any Spanish misdeed in this blood-stained region. Three years later, having at his disposal a fleet of 37 ships and a force of 2,000 fighting men, he captured Panamá (January 1671). The inhabitants set fire to their homes, and built a new city of the same name at a little distance in a locality less exposed to attack. That was the beginning of the present city of Panamá. Granada, in Nicaragua, was sacked by French and English pirates in 1686.

### Scotch Colony on the Isthmus

A number of influential Scotchmen, chief of whom was the founder of the Bank of England, William Paterson, were authorized by the Scottish parliament in 1695 to found colonies in savage lands; afterward obtaining letters patent from William III of England. Paterson chose Darien, believing the control of the traffic of the isthmus to be essential to the prosperity of England; he certainly was not, as is incorrectly and commonly stated, merely anxious to make money for his company, and reckless of consequences to the colonists. (Consult Bannister's *Life*; Rodriguez's *Anexion de Cuba*; etc.) The largest and most costly expedition that had yet been fitted out for colonization in America sailed from Leith, 26 July 1698, and founded "New St. Andrew." Subsequently recruits were sent out to them; but the project came to a miserable end. More than 2,000 lives and several millions of money had been lost, when the survivors were starved into surrender by the Spaniards.

A British squadron commanded by Admiral Edward Vernon (21 Nov. 1739), took Porto Bello, but was defeated at Cartagena. Meanwhile English settlements of a very peculiar character had been begun in Mosquitia and at Belize.

### Mosquito Coast

The Misskito tribe, called by the Spanish and English "Sambos" or "Mosquitos," a hybrid people, descendants of fugitive slaves, "Cimarrones," and natives, ruled by an hereditary king, dwelt on the eastern coast of Honduras and Nicaragua in the 17th century. Unoccupied by the Spanish, this coast was frequented by buccaneers, who made Cape Gracias á Dios, on the dividing line between the colonies just mentioned, their rendezvous.

Small settlements of English adventurers existed in this region; by the treaty of Madrid (1670) certain rights were conceded to Great Britain; the British claim was asserted (1744) by sending troops and building forts, but withdrawn (1786) when an agreement was reached as to the cession by Spain of the territory on the north coast of the Gulf of Honduras to which we shall now refer.

## The English Colony

The ex-freebooters of Belize, reinforced by other adventurers, were able to exploit the rich forests and hold their own, or more, in the contest for the possession of this territory waged at intervals between the authorities of Yucatan and the wood-cutters (regarded as interlopers) from 1733 until the end of the 18th century. The treaty of Versailles (1783) defined the limits of Belize; such limits were more precisely stated in the treaty signed at London, 14 July 1786; but the boundaries were subsequently extended by encroachments of the wood-cutters. Thus England, retaining the region now known as the colony of British Honduras, abandoned possession of the Mosquito coast, though her claim to exercise a certain degree of influence in the latter territory (from which the Spaniards were expelled by the Sambos in 1796) was not expressly and absolutely surrendered until 1850 or 1860. (See treaties mentioned below.) Before that determination, several reverses were sustained in Nicaragua. An English force was repulsed at Fort San Carlos in 1769. A few years later the design to sunder the Spanish provinces of Central America, and at the same time to capture a route for an interoceanic canal, by taking possession of Lake Nicaragua and the cities of Granada and Leon (see Bancroft's *Central America*), proved infeasible. An English force of about 1,800 men, including a party of marines under Horatio Nelson, was forced by the deadly fevers to abandon the attempt.

## Spain in Possession

Except Belize, Mosquitia, and large tracts in which the Indians remained nearly undisturbed, Spain now held the land, but no longer had energy or opportunity to develop its natural resources. The natives, more docile and serviceable than in other parts of America, seldom increased the difficulties of the situation by uprisings; there was, however, little incentive to accumulate property in a land menaced constantly for a hundred years by English, Dutch, and French pirates, and the mother country had

grown too poor to take the lead in industrial enterprises. The several divisions of an apathetic population were easily drawn together for administrative purposes: the captain-general of Guatemala by the middle of the 18th century controlled the provinces of Costa Rica, Honduras, Nicaragua, and Salvador, beside others now within Mexican boundaries. Revolt against Spain was the form in which the spirit of the people, awakened from this lethargy, naturally expressed itself. Unfortunately armed revolt has ever since been too closely identified with progress in the popular conception. The first weak blow for Central American freedom was struck in San Salvador, 5 Nov. 1811. A sequel to this attempt (in Leon, Nicaragua, 13 Dec. 1811) duplicated this Salvadorean effort, in result as in motive. A third failure was recorded when the Colombian insurgents (1820) fitted out a combined sea and land expedition to operate against the towns of Omoa and Trujillo. The Isthmus of Panama cast in its lot with South America, rather than with Central America, by voluntary annexation to the republic of Colombia on 28 Nov. 1821. (For its subsequent history see COLOMBIA and PANAMA.) The declaration of independence at the city of Guatemala, 15 Sept. 1821, was little more than an echo of the triumphant cry of other Spanish-American colonies in revolt; it was soon followed (5 Jan. 1822), by a decree of the *junta directiva* annexing Central America to Mexico. Salvador refusing to join in this surrender, a war with Guatemala ensued. Before 18 months had passed the Central American provinces resolved to form a union and constitute a single nation. On 1 July 1823 a national constituent assembly expressed this purpose, the name chosen for the nation being *Provincias Unidas del Centro de America.*

### Slavery Abolished

Though laggards in the race to win freedom, the Central Americans were prompt in bestowing it. The laws of 31 Dec. 1823, and 17 and 24 April 1824, emancipated their slaves and declared that slaves of other countries on coming to Central America should be freed. When dissensions and civil war broke up their confederacy, they had at least taken one step forward, in advance of their neighbors. The congressional decree of 30 May 1838, granting to the states the privilege of unrestrained action in most important matters practically dissolved the union, though Salvador tried to maintain or renew it long after the other confederates withdrew. Nicaragua, on recovering her autonomy

became involved in a dispute with Great Britain, the latter upholding the claim of the Mosquito king to all the territory lying between Cape Gracias á Dios and the mouth of the San Juan River, and sending (January 1848) two warships to occupy the port of San Juan. Nicaragua yielded provisionally to superior force. At this point the intervention of the United States was felt; and soon afterward the Clayton-Bulwer treaty, concluded at Washington 19 April 1850, between the United States and Great Britain, provided that neither power should occupy, fortify, colonize, or exercise dominion over any portion of Central American territory (except Belize), or make use of a protectorate in any form. In regard to this treaty the statements have been made: (1) That it guarantees Central American independence; (2) That it encourages the maintenance of English influence. Both statements are correct. The English influence was considered beneficial within certain limits. By the Zeledon Wyke treaty of 28 Jan. 1860, England ceded to Nicaragua absolutely the protectorate over the Mosquito coast.

### Walker's Campaign

While the diplomacy of the government of the United States was in the main considerate and helpful at this time, the conduct of some of her citizens left much to be desired. San Juan del Norte, or Greytown, was bombarded by the United States sloop-of-war Cyane, and burned to the ground by a landing party from that vessel, on 13 July 1854. William Walker, a native of Nashville, Tenn., of Scotch descent, sailed from San Francisco, Cal., 4 May 1855, on the brig Vesta, with 58 men, to take part in the little wars of political factions in Nicaragua. Before long he found himself at the head of a considerable force composed of Americans, European adventurers, and natives, with whose aid he became master of the situation, forced the people to elect him to the presidency, and was inducted into office 12 July 1856. Attacked by the combined forces of Salvador, Costa Rica, Guatemala, and Honduras, he was obliged to capitulate. Returning in 1860 with another filibustering expedition (this time landing at Trujillo on the coast of Honduras), he was captured, tried by court-martial, sentenced to death, and executed. Renewal of the efforts to achieve Central American unity was due in a measure to President Barrios of Guatemala (1873–85). For the further development of this design; the attempt (1895–98) to unite Honduras, Nicaragua, and Salvador; the treaty of 20 Jan. 1902, mentioned above, and events of the years 1885 to 1916, we refer our

readers to separate articles on each of the five republics. Only a few matters of general interest are mentioned in the following paragraph:

### Events in the Last Decade

All the Central American countries sent delegates to a conference held in Washington, D. C., 14 Nov. to 20 Dec. 1907. As a result of their deliberations eight conventions were signed, in relation to a general treaty of peace and amity, the establishment of a Central American court of justice, of an international bureau, of a pedagogical institute also international in design, etc. The Central American Court of Justice was opened at Cartago, Costa Rica, 26 May 1908 in the presence of representatives of the five nations, of the United States, and of Mexico. This international court is now established at San José, Costa Rica. On 20 Jan. 1909 a meeting at Tegucigalpa, Honduras, was attended by delegates of the five nations and an agreement was framed to secure the unification of the monetary systems, customs duties, weights and measures, fiscal laws, and consular service. This was the year of the Zelaya episode (see NICARAGUA — *History*). Other happenings served to concentrate attention upon Nicaragua; and in 1912, during the latter part of summer and the entire autumn, that country was in a state of revolution which imperiled the lives and property of foreigners and so led to intervention by the United States. (Again, but in this instance for an account of the employment of force and its sequel, see NICARAGUA — *History*.) In January 1914 another conference took place, which carried even further the recommendations of the conference of 1909 and added plans for agreements as to international highways, postal and telegraphic regulations, and coasting trade, as well as the founding of a central pedagogic institute and a central mission of foreign relations. Although no united action had, up to February 1917, been taken to put in operation the plans of these conferences, good influences were at work making for a better understanding of the essential community of interests and responsibilities and bringing nearer to realization the desired stabilization of financial and political conditions. Thus, the convention between the United States and Nicaragua, proclaimed 24 June 1916, served to call attention to the need of increasing eventually the solidarity of four of the states — Nicaragua, Honduras, El Salvador, and Costa Rica — while the establishment of banks in Central America, with the aid of capitalists in the United States, has proved the power of such organizations to aid regular

and orderly development throughout all that region, wherever transportation routes can be maintained with reasonable economy. Consult in this connection *Nicaraguan Canal Route* (Treaty Series, No. 624, Washington 1916) and *Proceedings of the First Pan American Financial Conference* (especially pages 583-587, Washington 1915.)

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# COSTA RICA

## NATIONAL BOUNDARIES, GEOGRAPHY, ETC.

COSTA RICA, a republic of Central America, bounded by Nicaragua, the Caribbean Sea, Panama, and the Pacific Ocean; area about 22,000 square miles.

The republic is divided into seven provinces and these are subdivided into cantones, and the cantones into districts. Each canton has a municipal organization elected by the people; but the political chiefs of the cantones and the governors of the provinces are appointed by the president of the republic. The provinces are: San José, Alajuela, Cartago, Heredia, Guanacaste, Puntarenas (not to be confused with the Chilean Punta Arenas) and Limón.

The mountains do not form a continuous chain, but are divided into two main groups, that of the northwest and that of the southeast, the former including the volcanoes Irazú (11,200 feet), Turialba (11,000 feet), Barba (9,335 feet), and Poas (8,675 feet). Eruptions occurred in 1723, 1726, 1821, 1847, 1864, and 1866. The southeastern or Talamanca group, in which there are no signs of recent volcanic activity, includes the Buena Vista (10,800 feet), Chirripo Grande (11,850 feet), Pico Blanco (9,650 feet), etc. A transverse system, the Cordillera de Dota, below Cartago, renders communication between the northern and southern sections of the country exceedingly difficult. More than one-half of the area of Costa Rica lies between 2,900 and 6,825 feet above the sea, and is covered with virgin forests, the vegetation being so dense that it is almost impossible to penetrate the

interior of these regions save by way of the rivers. From the coast to a height of 2,900 feet are tropical forests and savannas; above 6,800 or 6,900 feet, approximately, are the regions of oaks and chaparrales, extending up to 9,800 feet; and subalpine or subandine flora characterize the regions between 9,800 feet and the tops of the highest mountains.

The climate in general is healthful, fevers occurring only in regions of less than 150 feet elevation, but there is a great variety according to altitude. The coast lands and regions below 3,000 feet have a high temperature, ranging from 70° to 80° F., and in consequence a torrid climate. The temperate zone lies between 3,000 and 7,500 feet and is very healthful with a mean temperature of about 62° F. Winds blow continually and are a great cause of discomfort in the dry season — December to May. The annual rainfall averages about 100 inches.

The tapir, deer, puma, jaguar, armadillo, iguana, and many varieties of monkeys, are found in the forests, a few species being peculiar to Costa Rica, while the rest belong as well to South or North America. Of *avifauna* there are 725 known species; of *reptilia* and *batrachia* over 130 species; and the species of fish are especially varied owing to the circumstance that those of the Pacific are almost wholly different from those of Caribbean waters. The flora is essentially tropical. There are mahogany, cedar, brazilwood, fistic oak and ebony in the forests. Coffee, bananas, maize and sugar cane are commonly cultivated. Rubber also is found.

From mines near the Gulf of Nicoya the exports of gold and silver bullion in a single year were $792,847. In 1913 gold and silver to the amount of $1,021,437 was mined and exported, and to the amount of $805,897 in 1915. The production of one of the three principal auriferous districts has exceeded the sum of $10,000,000; and in view of the circumstance that this sum has been produced by the crudest mining and metallurgical methods, the reward which would follow the proper application of capital sufficient to operate on a large and modern scale is surmisable. There are deposits of iron, nickel, and manganese in several cantones. One manganese mine is in operation in Costa Rica. It began shipping in May 1916, and is now sending out about 300 tons a month, all in bags. It is making preparations to install an equipment of docks, furnaces, etc., with a capacity of 3,000 to 5,000 tons a month. An oil company has acquired rights to oil lands in Limón, Guanacaste and Puntarenas.

## HISTORY OF COSTA RICA

An account of the Spanish settlements at the beginning of the 16th century is given in the article CENTRAL AMERICA. The Spanish crown in 1540 established the province of Costa Rica; in 1560 and 1573 defined its frontiers; in 1562 appointed Juan Vasquez de Coronado military governor of Costa Rica and Veragua. The city of Cartago, until 1823 the capital, was founded by Coronado, but it was a city only in name. During the first century of the existence of the province no headway was made. The Indian tribes were the most intractable of their kind; white settlers were few. A brief period of comparative prosperity began when Capt.-Gen. Sandoval in 1638–39 made a new port at Matina and opened a road from it to the capital. The value of cacao plantations near the road increased, and the eastern coast, as well as the Gulf of Nicoya, was visited by trading ships. But the buccaneers swooped down upon the coast as soon as there was anything of value to be seized, and Indians completed the work of destruction. This wretched state of things continued throughout the 18th century.

One hundred years ago Costa Rica was described as the most benighted, woeful province in the whole Spanish empire. Its colonists, ignorant and indigent, "clothed with the bark of trees," had been reduced to such misery — generation after generation cut off from communication with the outside world — by century-long ravages of pirates from Europe and marauding bands of Indians from the Mosquito coast. But to-day, as we have seen, the republic holds a leading position among Latin-American nations in regard to public instruction, and (except the apparently chronic dislocation of the public finances) it can no longer be called a very poor country. Every Costa Rican who cares to do so can own valuable property of some sort, and the foreign commerce of the country is far from being contemptible. The change may be described in a few words.

Less than four months after proclaiming that Spanish control was at an end (15 Sept. 1821), Costa Rica with the other weak Central American States was drawn into a union with the Yturbide empire of Mexico. This dependence lasted until 1824, and then followed the experimental union of the Central American countries. But genuine independence began with self-reliance after 1830. Even in that time of extreme poverty the state acknowledged and declared that it could not postpone and would not shirk its duty to provide for the education of the people. In better days

it has devoted 10 per cent or more of the national revenues to this use. Thus Costa Rica's particular achievement, marking this little republic for distinction among Latin-American nations, has been the upbuilding of character through sacrifices made in the cause of popular education. During the first half of the 19th century commerce received a new impulse through the discovery of gold in the mountains near the Gulf of Nicoya, and the extension of coffee culture. Several of the presidents holding office since 1824 have been eminently patriotic and far-seeing men, under whose guidance the graduates of Costa Rican schools have begun to appropriate some of the natural resources of the land, with little aid from immigration, though not without the aid of foreign capital. Immigration up to the present time has been small.

In 1907 Costa Rica and all the other Central American States sent delegates to a conference which was in session at Washington, D. C., from 14 November to 20 December. The conference decided, among other things (see CENTRAL AMERICA), to establish a Central American Court of Justice and a Central American "pedagogical institute," both to be located in Costa Rica; and the delegates, expressing the opinion that each republic should have the right to maintain at the proposed normal college not more than 200 students of both sexes, agreed to send not less than 20 students of each sex. On 20 Mar. 1910 Costa Rica and Panama signed a protocol setting forth the basis of fact for the arbitration of their boundary dispute by Chief Justice Fuller. In May, Ricardo Jiménez was inaugurated as President of the Republic. An earthquake wrecked a large part of the city of Cartago, including the new Palace of Peace. Estimated loss of life 1,800. In 1913 the President in his message stated that the Government was particularly solicitous for the advancement of education. Although more than one-eighth of the total revenue of the State had been expended for schools and colleges in the preceding year, Congress was asked to increase the inheritance tax for the benefit of the School of Arts and Crafts and the hospital fund. Among the measures passed by the Congress was a law limiting the armed force of the President (the regular army) to 1,000 men in time of peace and 5,000 in time of public danger from insurrection, etc. President Alfredo González Flores, chosen for the term 1914 to 1918, was known to be the moving force responsible for legislation in favor of agriculturists and in defence of the rights and privileges of workingmen which engaged the attention of the Congress in 1915 and 1916.

## GOVERNMENT

The legislative branch of the Government consists of a single house, called the Constitutional Congress; its deputies, who are chosen, one for every 15,000 inhabitants, for a term of four years, assemble each year for a 60 days' session which may be extended for 30 days. One-half of the deputies retire every two years. The term of the president, in whom is vested the chief executive power, is four years. Congress annually appoints three substitutes called *designados*. Administrative departments in charge of secretaries or ministers appointed by the president are six in number. An assistant secretary (*subsecretario*) assigned to an important bureau (for example, public instruction) reports directly to the constitutional congress. Judges also hold office for terms of four years. The main tribunals are the supreme court of justice (11 justices), and two appellate courts (three magistrates each). Subordinate courts are established in the provinces. In the chief towns of each canton the alcaldes are judges of petty offenses, act as committing magistrates, and have jurisdiction in the less important civil cases.

## EDUCATION AND RELIGION

Costa Rica has about twice as many teachers in its schools and colleges as soldiers in its army. Elementary instruction of both sexes is by constitutional mandate compulsory and at the government's expense. The most recent statistics available at present show that about 30,000 children are enrolled as pupils in 428 elementary schools, controlled by educational juntas for whose support the government has made a special loan and imposed certain taxes. Higher education is provided at several provincial institutes, and at the Liceo and Colegio Superior de Señoritas—both of the latter in the capital. There are schools of law and medicine, a national museum, a national library, the University of Santo Tomas, and the Physico-Geographical and Meteorological Institution. The government has made a practice of defraying the expenses of a number of young men who are sent as students to European universities. Dr. Claxton, Commissioner of Education, Dept. of Interior, Government of the United States, writes: "In Costa Rica, which has made greater advance in respect to primary education than any other one of the Central American States, a very important movement in rural education has been

started by the establishment of schools which are furnished with gardens, orchards, and fields, and which provide for rural industries carried on under a special program of instruction." (Report for year ended 30 June 1915.) By executive decree of 14 Jan. 1915, rules for the Normal School at Heredia were promulgated.

The Roman Catholic is the religion of the state, but there is entire religious liberty under the constitution. The bishop of San José is a suffragan of the archbishop of Guatemala.

## INDUSTRY AND COMMERCE

Coffee raising was for a long time regarded as the most profitable form of agriculture in Costa Rica, and the decline in the price of coffee brought on the financial crisis which we noted soon after the beginning of the present century. Coffee invoiced at the American consular agency at Puntarenas for the United States during 1916 amounted to 7,718,057 pounds, valued at $939,543. The systematic cultivation of bananas has increased during recent years to such a degree that it has become Costa Rica's leading industry. Indian corn, rice, and cocoa grow readily. The live stock consists of 33,000 cattle, 52,000 horses, 63,000 pigs, besides mules, sheep and goats. Because of the great number of peasant proprietors agriculture is advancing and both the economic situation and political stability of the country are on a sound basis.

Until the year 1915 cattle were never exported from Costa Rica, but were extensively imported from Nicaragua at the rate of from 20,000 to 30,000 head annually. During the year 1915, however, 3,151 head of cattle, valued at over $100,000, were exported to the Canal Zone, Panama, for the United States military forces stationed there. Owing to the scarcity of cattle in this district it is not likely that they will continue to be exported to any extent. Prices of milk, butter, cheese, and beef are much higher in Costa Rica than in the United States, and large quantities are imported annually.

The cultivation of cacao is becoming an important industry in Costa Rica. In 1915, 1,272,905 pounds, valued at $174,809, were exported.

The Congress of Costa Rica in 1917 provided for the payment of bounties to the growers of hemp, sisal, and similar plants. This bounty, according to the Revista Economica, is to be in the form of 6 per cent treasury bonds, at the rate of 30 colon (colon = 46.5 cents) for each hectare (2.47 acres) of land planted

in a fibre crop, and on receipt of the bounty the grower will execute a first mortgage on the land. The total amount of bounties is not to exceed 500,000 colones, and 100,000 colones more is appropriated for machinery. The bounty will be divided into three parts, the first to be delivered when the fibre is planted, the second part two years later, and the third when the plants are ready to be cut.

When the planter has cultivated his fibre crops for 10 years after receiving the first bounty, and has marketed his crops during this time, the mortgage will be canceled by the Government. When owners of plantations representing 200 hectares of land or more wish to establish a common fibre factory, the Government will grant them a loan in treasury bonds for two thirds of the cost of the installation, taking a mortgage for the amount of the loan payable in 10 years at 8 per cent with amortization of 10 per cent.

In 1914 the imports were valued at $7,551,679, while the exports surpassed this figure by $3,310,069. In 1915 the imports were valued at $4,478,782, and the exports at $9,971,582. Exports in the last normal year before the European War, 1913, showed the following distribution: To the United States, $5,297,146; to Great Britain, $4,364,436; to Germany, $509,804; to France, $96,665. In the same year Costa Rica imported from the United States goods valued at $4,515,871; from Germany, $1,355,417; from Great Britain, $1,303,187; from France, $391,681.

The following table shows the value of the leading exports for the last two years and the principal countries of destination, acording to the customs statistics:

| Exports and countries of destination | 1914 | 1915 | Exports and countries of destination | 1914 | 1915 |
|---|---|---|---|---|---|
| Bananas | $4,725,754 | $4,427,566 | Rubber | $12,134 | $49,488 |
| United States | 3,281,012 | 3,087,826 | United States | 11,148 | 48,192 |
| Great Britain | 1,444,742 | 1,339,740 | Germany | 221 | |
| Cacao | 84,507 | 174,809 | Timber | 123,814 | 49,372 |
| United States | 9,898 | 66,897 | Cedar | 81,711 | 16,908 |
| Great Britain | 39,192 | 101,674 | United States | 13,299 | 13,700 |
| Central America | 25,253 | 4,355 | Germany | 10,184 | |
| Coffee | 4,663,369 | 3,730,307 | Chile | 48,510 | |
| United States | 467,269 | 547,982 | Mahogany | 9,786 | 14,080 |
| Great Britain | 3,533,895 | 2,877,932 | United States | 2,934 | 3,911 |
| Germany | 483,124 | 55,955 | Great Britain | 3,302 | 8,370 |
| Gold and silver | 885,599 | 805,897 | Cocobolo | 28,388 | 7,977 |
| United States | 885,599 | 805,897 | United States | 21,971 | 7,970 |
| Hides (cattle) | 110,780 | 151,064 | Germany | 6,277 | ... |
| United States | 50,207 | 90,069 | | | |
| Germany | 39,584 | ... | | | |
| Spain | ... | 38,232 | | | |

Small establishments for the manufacture of saddles, harness, shoes, hats, clothing, cigars, cigarettes, candles, soap, beer, alcoholic liquors, carbonated waters, etc., exist in various parts. There are officially enumerated 3,296 factories and industries in the Republic, including coffee-drying establishments, starch, broom, and woodwork factories.

## TRANSPORTATION AND COMMUNICATION

The Costa Rica Railway runs from Limón to the cities of the central uplands, and has several branch lines; the Pacific Railway connects San José with a good harbor on the western coast. In all, there are about 430 miles of railways, of which 69 miles are owned by the government. Between Limón and New Orleans and Mobile there is direct communication by steamship lines several times each week. Between Limón and New York steamers run weekly. There is a regular service between ports of the Central American coast, from Colón to Belize. Sailings to Jamaica, Cuba, and England are fortnightly. French, German and Italian steamers call at Limón once a month. On the Pacific coast there are three regular lines touching at Puntarenas: the Pacific Mail, and the Chilean and British lines. There are about 130 telegraph offices, and 1,500 miles of wire and 640 miles of telephone lines. Wireless telegraphy with 300 mile radius is in operation at Limón, and there is a smaller station at Colorado, at the mouth of the San Juan River.

## WEIGHTS AND MEASURES

The libra = 1.043 pounds; manzana = 1¾ acres; centaro = 4.2631 gallons; fanega = 11 bushels. The metric system was established by law, 10 July 1884, but has not entirely displaced old weights and measures.

## MONEY AND BANKING

The gold standard was adopted in 1896; in 1900 gold certificates were redeemed and gold put into circulation. The unit is the colon. The gold coins are 2, 5, 10, and 20 colones; the silver coins, 5, 10, 25, and 50 centimos. The principal banks are the Banco Anglo-Costarricense, established 1863, the Banco de Costa Rica, established 1867, and the Banco Comercial. In addition to these three banks, the Government has established, as a temporary measure to cover the deficit of revenues and assist their merchants and farmers over the crisis which the European War intensified, the Banco Internacional, with a restricted issue of bank notes to the extent of 4,000,000 colons (or colones), secured by a new issue of 2,000,000 colones, six per cent interior bonds, in conjunction with 2,000,000 colones, exterior refunding bonds, which in 1915 were in escrow in a New York bank.

The unit of the monetary system, the colon, is divided into 100 centimos and is used only in Costa Rica. Its weight is 0.7780 grammes of .900-fine gold, or, say, 0.7002 grammes of pure gold, which gives it a par value of $0.46536, currency of the United States. The par value of $1.00, currency of the United States, is 2.14887 Costa Rican colones. Under normal conditions, the commercial rate of exchange in Costa Rica for sight draft on New York fluctuates between 2.13 and 2.18 colones per $1.00, currency of the United States. "The circulation consists of banknotes, backed by gold and other assets of the issuing banks. Foreign gold coins are legal tender in Costa Rica at the following rates: American dollar = 2.15 colones; French franc = 0.4125 colones; German mark = 0.51; English sovereign = 10.45 colones. The situation in Costa Rica has been complicated by the recent failure of the Banco Comercial de Costa Rica [of Limón, not the Banco Comercial of San José]. In order to facilitate the circulation of the notes issued by the new bank mentioned above, the Government has decreed that all obligations which are to be liquidated in colones, or in other agreed-upon moneys, will enjoy the privilege of a moratorium until one year after the signing of European peace, unless the creditors are willing to accept payment in bills of the Banco Internacional de Costa Rica." (From *Latin American Monetary Systems*, etc. See *Bibliography*.) One of the results of the Pan American Financial Conference held at Washington in 1915 was noted, as follows: Costa Rica arranged with New York bankers for a credit of $500,000, making New York exchange available in transactions between the two countries.

## National Debt

The total debt in 1915 was $19,000,000, of which about $8,000,000 was English credit, $7,000,000 was French credit, and $4,000,000 scattered. The economic problems of the government were acknowledged in the inaugural message of President Esquivel, 2 May 1902, to be "grave and complicated." The total foreign debt in 1901 was £2,080,000; it was contracted in England in 1871 and 1872. In March 1901 Costa Rican bonds to the value of 642,300 colones were incinerated, having been issued in 1897 and 1899, and subsequently redeemed. The revenue of the government is derived from custom-house duties, the liquor monopoly, tobacco, stamped paper, post-office, etc., the export duty on coffee having been abolished 1 Sept. 1901. The government revenue in 1915 was $2,945,517, and the expenditures for the same year amounted to $4,257,511.

## ARMY

All male citizens between the ages of 18 and 50 may be called upon to do military service; the standing army, however, and the militia together number only 6,000. Supplementing the land forces are the two government-owned motor launches.

## POPULATION

The population in 1826 was 61,846 and mainly by increase of the families whose ancestors came from Galicia or Catalonia before the date just mentioned, it had grown by 1917 to 411,000. In marked contrast with the other Central American states, Costa Rica's population, in the larger towns of the uplands, is almost entirely white. Only a few thousand Indians remain, and the negroes (some 25,000 British West Indians) live near the coasts.

The character of the people has been tested. Their troops were conspicuously successful against the filibuster from Nashville, Tenn., William Walker, who in 1855 forced the Nicaraguans to elect him to the presidency (see CENTRAL AMERICA). This feat established Costa Rica as one of the controlling forces in a group of small states, but an aggressive policy was not adopted then, nor has it been subsequently adopted. The obligation and "traditional" policy of Costa Rica is to solve its own problems, and to avoid complications with other countries. Since Walker's execution, the most important events have been the promulgation of the constitution of 1870, and the arbitration of the boundary disputes. The frontier line with Colombia (Panamá) was to a certain extent determined by the award of the President of the French Republic as arbitrator, 11 Sept. 1900. President Loubet's decision extended the Colombian frontier to Punta Carreta on the Caribbean coast, thus depriving Costa Rica of extensive territory to which she laid claim. But there is still contention (see *Bibliography*) between the interested countries in regard to the precisely correct interpretation of the terms of the award; and it is with this qualification that our estimate is offered, in the first paragraph of this article. Previous estimates have varied between 23,000 and 34,000 square miles. On 20 Jan. 1902, a "Convention of Peace and Obligatory Arbitration" was signed at the Port of Corinto, Nicaragua, by plenipotentiaries of Costa Rica, Nicaragua, Honduras, and Salvador.

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# POLITICAL DIVISIONS AND CITIES

The Republic of Costa Rica is divided politically into Provinces which are again divided into cantons and these into districts. The political subdivisions with their populations are as follows:

| PROVINCES | Population | Capital | Population of the Canton in which the capital is situated |
|---|---|---|---|
| San José | 125,096 | San José | 55,101 |
| Alajuela | 97,666 | Alajuela | 26,981 |
| Cartago | 62,283 | Cartago | 35,309 |
| Heredia | 44,164 | Heredia | 17,088 |
| Guanacaste | 36,527 | Liberia | 6,289 |
| Limón | 24,111 | Limón | 14,004 |
| Puntarenas | 21,134 | Puntarenas | 15,867 |
| | 410,981 | | |

## San José

The capital and commercial centre of Costa Rica, lies in a fertile valley, 3,868 feet above the level of the sea. Its excellent climate, well paved streets, beautiful parks, and magnificent public and private buildings make it one of the most delightful capitals of Latin America. It has a good water supply and is well lighted by electricity. It is connected by rail with Port Limon on the Atlantic coast and Puntarenas on the Pacific. It is the centre of a rich agricultural region.

## Limon

The principal seaport of Costa Rica is situated on the eastern coast, at the eastern termanus of the interoceanic railroad to Puntarenas. It has a good harbor and has regular steamship communication with New York and other North American ports. Most of the coffee produced in the country is exported from this port. It is also prominent as a banana shipping point, besides rubber and dyewoods.

## Puntarenas

The principal seaport on the Pacific, is situated on the Gulf of Nicoya, 44 miles west of San José. The harbor is provided with an iron breakwater. It has steamer communication with the Pacific ports of the United States. Coffee, rubber, tortoise shell, and silver are exported. A consular agent of the United States is stationed here.

# GUATEMALA

By Marrion Wilcox

## TOPOGRAPHY AND PHYSICAL GEOGRAPHY

THE Republic of Guatemala is a country in Central America bounded on the north by Mexico, British Honduras, and the Gulf of Honduras, on the east and southeast by British Honduras, the Gulf of Amatique, Honduras and Salvador; on the south and southwest by the Pacific Ocean; and on the west by Mexico. Its area is estimated at 48,290 square miles; its territory extending from lat. 13° 42′ to 17° 49′ N., and from lon. 88° 10′ to 92° 30′ W.

The mountains of Guatemala are commonly referred to as "Cordillera of the Andes," "Guatemalan Andes," or simply "Andes," though there is no propriety in those names. The Andes terminate in northern Colombia, and have no genetic connection with the mountains of Central America. In order to understand the independent character of the latter (so far as the great continental ranges are concerned), we must realize that they are also in their geologic history totally distinct from the Rocky Mountain system, or North American Cordilleras, which terminate in southern Mexico. If the trends of the Andean and Rocky Mountain systems were protracted from their termini (in 70° W. and 97° W. respectively), they would not connect with each other, but would pass the latitude of Guatemala in parallel lines nearly 2,000 miles apart. The Guatemalan mountains belong to the Antillean system which lies between the termini just referred to; its ranges, composed of folded sedimentaries, in eastern Guatemala have an east and west trend. But the ranges near the Pacific coast of the republic, crossing the western ends of the Antillean corrugations diagonally, or with a northwest-and-southeast trend, must

assigned to still another class; they form a part of the volcanic chain which extends along the entire western coast of Central America, and is continued in Mexico. The Sierra Madre is the principal range of the west and south; in the central and eastern districts are the Sierra de Chama, Sierra de las Minas, Sierra de Santa Cruz, and the Sierra de Copán — the last named on the frontier of Honduras. The highest points of the Cordillera are given as: Tajumulco volcano (12,600 feet), Tacaná volcano (12,400 feet), both in the southwest; Acatenango volcano (11,100 feet), south-central; and the volcano de Fuego (11,400 feet), also south-central.

### Hydrography

Rivers emptying into the Gulf of Mexico are: the Usumacinta, on the Mexican frontier, and the Cuilco and Salequa, which are also tributaries of Mexican streams. The following empty either into the Gulf of Honduras or Izabal Lake (Golfo Dulce): the Montagua, Rio Hondo, the Dulce, the Belice, the Sarstoon, and the Polochic. Those which flow into the Pacific are: Rio de los Esclavos, Rio de Paz, the Michatoya, Guacalate, Coyelate, Patulul, Nagualate, Samalá, Tilapa, Naranjo, and Suchiate. Steamship navigation has been established on the Dulce and Polochic rivers; seven or eight of the others are navigable for small boats. The most important lakes are: Atitlán and Izabal (both navigated by steamers), Petén, Amatitlán, Ayarza, and Güija (on the frontier of Salvador). Ports on the Caribbean side of the republic are: Puerto Barrios, Livingston, and Santo Tomás — the first two being ports of entry and delivery, while the last is a "minor port," at which importation and exportation are restricted to certain articles. On the Pacific coast the most important ports are: San José, 74½ miles from Guatemala City; Champerico, and Ocós — all ports of entry and delivery, provided with iron piers, etc.

### Climate

The lowlands of the Pacific and Atlantic coasts are torrid; interior table-lands, at an altitude of 2,000 to 5,000 feet, have an agreeable climate; and the high districts, where the elevation is more than 5,000 feet, are decidedly cool. The larger towns are built in the temperate or cool zones. The rainy season, beginning in May, lasts until October in the interior, but sometimes until December, on the coast. December and January are the coldest months; March and April the hottest. Snow sometimes falls (in December or January) on the uplands of the cool zone.

### Flora and Fauna

The very name of the country signified in the Indian language " the land covered with trees." The rich soil and varying climatic conditions favor a wide range of products in the vegetable kingdom; no systematic classification of these, however, has yet been made. The extent of the forest land, which abounds in mahogany, is estimated at 1,300,000 acres. The fauna and avifauna resemble those of Costa Rica in general, but especially characteristic of Guatemala are the aquatic birds on its rivers and lakes, and the quetzal (also written quezal and quezale). Mexican deer are quite numerous. The tapir, honey-bear, armadillo, wild pig, cougar, jaguar, etc., are found as in other parts of Central America. The over-abundance of insect life is particularly noteworthy.

### Geology

The calcareous formations of the Antillean ridges and, generally, the eastern and central regions, deserve special mention. Volcanic products characterize the Pacific slope and Sierra Madre, where they occur in connection with granite rocks, porphyries and trachytes.

### Mineral Resources

Gold and silver are found near the Montagua River and elsewhere; salt in the departments of Alta Verapaz and Santa Rosa. Other minerals reported to exist are: coal, lignite, manganese, lead, tin, cinnabar, copper, kaolin, opals, slate, alum, antimony, marble, alabaster, sulphur, ochre, asbestos, plumbago, chalk and bitumen. A belt of country extending from the coast range of mountains on the western frontier, near the Pacific, across the Sierra Madre to the coast range of the Caribbean slope, is regarded as essentially a mineral territory, in which there has been comparatively little exploiting or prospecting, though enough to reveal the presence of the precious and base metals.

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## HISTORY OF GUATEMALA

Pedro de Alvarado, one of the lieutenants of Cortés, 1523-24 conquered the country, and on 25 July 1524 proclaimed the sovereignty of Spain at Almolonga, the native town which was afterward to be known as Santiago de los Caballeros. The important



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View of Escuintla, Guatemala

fact in connection with this conquest is that it did not lead to the extermination of the natives. Two explanations of this circumstance are offered. Mr. Bancroft says that the Indians, after fighting desperately in defense of their homes, maintained a sullen resistance, and therefore both here and in the adjoining state of Chiapas "the natives probably retain to the present day their original traits with fewer modifications than elsewhere in the Pacific States." But this theory is at variance with the Central American records in general. A suggestion which may be preferred is that the natives of Guatemala were obviously available as agricultural laborers; that they were not uninfluenced by that civilization which had survived here, as in southern Mexico and Honduras, from very ancient times; that they were therefore allowed to survive, after the first decade of cruel and useless oppression (grossly exaggerated, of course, by Las Casas), while the more warlike tribes, such as those inhabiting Costa Rica and Veragua, were gradually being exterminated. And their descendants in great numbers still possess the land. After the conquest all of the territory now divided up among the Central American countries was included in the captaincy-generalcy of Guatemala. Independence was proclaimed 15 Sept.

1821; annexation to the Mexican empire under Iturbide followed (5 Jan. 1822). An assembly of representative citizens of Guatemala and the other Central American provinces on 1 July 1823 declared the whole country to be independent, with reference to Mexico, Spain, and all other nations, "whether of the Old or of the New World." Accordingly the United Provinces of Central America came into existence. Guatemala seceded from this union 17 April 1839. The name República de Guatemala was assumed 21 Mar. 1847. Between 1839 and 1851 there was a series of bitter struggles with Salvador for supremacy, fortune favoring the smaller republic; but in the year last mentioned Guatemala began to be successful, and, under the leadership of Rafael Carrera (president until 1856, and subsequently life-president or dictator), carried the war into Salvador (1863) and regained the controlling position in Central America. Carrera appointed his own successor, and died in 1865. The next significant administration was that of Gen. Justo Rufino Barrios, who was put in office by the Liberals, after their onslaught upon the Jesuits. Barillas was elected to the presidency in 1886. In 1890 and 1891 the progress of the country was checked by epidemics of cholera and smallpox. On 15 Mar. 1892 José Maria Reina Barrios was inaugurated as president, and by a decree of the National Assembly (30 Aug. 1897) his term was extended to 15 Mar. 1902 — in direct violation of the Constitution, which was proclaimed in 1879 and modified in 1885, 1887, and 1889. He was assassinated 8 Feb. 1898. Señor Manuel Estrada Cabrera was proclaimed acting president, and received the support of the army. An insurrection begun under General Castillo's leadership 28 July was put down, but only to be quickly followed by another revolutionary movement. Insurgent forces commanded by Morales offered a stubborn resistance in the southwest, until Morales was captured. When peace had been restored, Cabrera was the only candidate for the presidency, and his election was announced 25 Sept. 1898. In the following year the government of Guatemala made a proposition which was equivalent to repudiation of a part of its foreign debt, but yielded to Germany's protest — or threat to use force — and withdrew the discreditable suggestion. Earthquakes which occurred in April 1902 caused great damage in several districts. Amatitlan, Mazatenango, San Marcos, Sololá, and San Felipe suffered severely, and Quezaltenango, in importance the second city of the republic, was totally destroyed. An eruption of the volcano Santa María followed on 24 October, and there were outbursts from new craters in November. Several thousand persons

lost their lives through these disasters, and the injury to property (plantations, buildings, machinery, and cattle) has been estimated at $5,000,000 to $10,000,000. Taxes for the relief of the earthquake sufferers were imposed by the Legislative Assembly 24 April 1902. A convention between the United States and Guatemala relating to the tenure and disposition of real and personal property was signed 27 Aug. 1901, and ratifications exchanged at Guatemala 16 Sept. 1902. A revolt in 1906, under the leadership of General Barillas, spread to the other Central American countries; the governments of the United States and Mexico interposed; an armistice (19 July) served not only to restore order for the time being, but also paved the way for the Central American Peace Conference held at Washington in 1907. (See CENTRAL AMERICA.) In 1910 Cabrera's third complete term as President began. In 1913 Great Britain sent a warship to Guatemala, and demanded settlement of claims. The country without a navy appealed to the United States, and an agreement was made in regard to the debt. In 1915 a boundary treaty was signed with Honduras.

## GOVERNMENT

The legislative power is vested in the National Assembly (a single house), whose members (deputies) number one for every 20,000 inhabitants, and are elected for four years by popular vote. The executive power is vested in a president, elected for six years by direct vote of the people. The administration is carried on under the president, by "six secretaries of state," each of whom has charge of a separate department (*ministerio*). These departments are: Government and Justice, Foreign Relations, Public Instruction, Promotion of Public Welfare (*Fomento*), Treasury and Public Credit, and War. The council of state is an advisory board, of which five members are chosen by the assembly and four, in addition to the cabinet, appointed by the president.

### Local Government

The "Political Chief" (*Jefe Politico*) of each department of the republic is appointed by the president, whose authority he exercises in provincial matters. The local officials locally elected

are: the *Alcaldes* (one or more for each municipal district) and the *Regidores* (members of the municipal council), *Alcalde* and *Regidor* correspond to mayor and alderman; the *jefe político* takes the place of a governor, and his relation to the chief executive in a centralized republic fairly indicates the limits within which local self-government is permitted.

### Judiciary

The supreme court of justice consists of a chief justice and four associates, elected by the people. There are six courts of appeal, each consisting of a chief justice and two associates, also elected by the people. Courts of the first instance are 29 in number: their judges are selected by the president among the candidates approved by the chief justice of the supreme court.

## EDUCATION AND RELIGION

Public instruction, supported by the government, is secular and gratuitous; primary instruction is obligatory; free education is guaranteed by the constitution. In the *Report of the Commissioner of Education for the Year ended 30 June 1915* (Washington 1915) we read that "the chief institutions for secondary education in Guatemala are the Central National Institute for Boys, with an enrollment in 1913 of 553 pupils; the Central National Institute for Girls, with 385 pupils; the National Institute and Normal School Annex for Boys, at Chiquimula, with 27 pupils; and a similar school for girls in the same city, with an enrollment of 80 pupils; the National Institute for Boys and Practical and Commercial School Annex at Quezaltenango, with 40 pupils." The national library contains 30,000 volumes and many valuable unpublished documents. Other libraries accessible to the public are those of the professional schools, the supreme court, national institute for men, and academy of teachers. Public libraries are maintained in the larger towns. The national printing-office at the capital is regarded as one of the best establishments of its kind in Latin America. More than 30 daily papers and other periodicals are published in the country. The constitution guarantees liberty of conscience. The government recognizes no creed. The prevailing religion is Roman Catholicism.

## AGRICULTURE

Coffee grows in the regions between 1,000 and 6,000 feet above the sea-level. The districts best suited for growing coffee are Antigua, Barberena, Costa Chuvá, Alta Verapaz, Costa Cuca, Costa Grande, Pochuta, and Tumbador. The total production for the 1916–17 season was 80,000,000 pounds valued at from $10,000,000 to $12,000,000 gold. The average yield per acre was approximately 800 to 830 pounds, the total area under coffee cultivation being 98,800 acres. Germans own and control between 50 and 60 per cent of the coffee plantations; only a very small proportion represents American investments. In 1915 the United States took 66 per cent of the crop, and between 75 and 80 per cent the year following, the remainder going to the Scandinavian countries. Sugar cane grows between sea-level and 6,200 feet. In 1915, 30,000,000 pounds of sugar were produced, an increase of 20 per cent over the crop of 1914. The bulk of this production was exported to the United States and to British Columbia. Cacao grows in the lowlands or those regions having an altitude of less than 3,000 feet. Tobacco and wheat are also produced in large quantities. Corn, or maize and beans or frijoles form almost exclusively the daily food of nearly three-fourths of the people of Guatemala. The production of corn is sufficient for local consumption, amounting to 600,000,000 pounds, a yield of 1,300 to 1,800 pounds per acre annually. Of beans the annual production is about 180,000,000 pounds. Stock-raising has been encouraged in the departments of Izabal, Zacapa, Petén, and Alta Verapaz, by decrees authorizing the political chiefs of those departments to make grants of land to persons who establish ranches. Money premiums have been offered to cultivators of india rubber, cacao, sarsaparilla, and hemp; grants of land to those who engage in the cultivation of wheat and bananas. Proprietors of large cotton or tobacco plantations, and reliable day laborers on large plantations of coffee, sugar cane, bananas, or cacao, are exempted from military service. No tax of any kind is levied for 10 years upon plantations of hemp, flax, ramié, cotton, grapes, and one or two other products. Large cash premiums to encourage the production of grapes, hemp, cotton, flax, wheat, and tobacco were offered, particularly during the decade 1886–96; in 1899 the government offered 113⅝ acres of the public lands as a reward for every 10,000 rubber-plants, four years old, planted after 14 Jan. 1899. The chicle industry is growing fast, particularly in Peten. In 1915, 7,238 quintals, valued at $231,624, were exported.

## COMMERCE AND INDUSTRY

In 1915 Guatemala's imports, including freight and other charges on the merchandise, according to the report of the Director-General of Customs, were valued at $5,072,476, and exports at $11,566,585, making the total foreign commerce in value only $16,639,061, with which we contrast the total for 1914, over $22,000,000, and that for 1913 over $24,500,000. The principal exports were, in 1914 — Coffee, 831,341 quintals (1 quintal = 101 pounds approximately); bananas, 3,390,470 bunches; cattle hides, 17,[illegible] quintals; chicle, 7,116 quintals; sugar, 295 quintals; rubber, 118,127 quintals. Distribution of foreign trade was given as follows — United States, imports $4,879,200 and exports $4,874,379; Great Britain, imports $1,389,645 and exports $1,476,706; Germany, imports $1,842,738 and exports $5,412,580; France, imports $317,631 and exports $34,186. The value of the coffee exported is about 80 per cent of the total value of the country's exports. During 1915 Guatemala manufactured 11,893,456 bottles of aguardiente, or brandy, valued approximately at $1,200,000 United States gold, and imported wines, liquors, and beer to the value of $125,583 United States gold. Of the total amount of such imports for 1915, France supplied $42,241 worth; the United States, $39,327; England, $19,698; Germany, $2,916; Spain, $13,5[illegible]. Besides its imports of wines and liquors, Guatemala exported in 1915, chiefly to the United States, aguardiente to the value of



The Post Office, Guatemala City, Guatemala
(Courtesy of the Pan American Union)

$5,054 United States gold. In this year perfumery of all kinds was imported to the value of $15,225 United States gold; of this $5,963 represented importations from the United States and $5,796 represented importations from France. Boots, shoes and leather to the value of $94,660 were imported, of which $87,199 worth were brought from the United States. Besides the hides used in the Guatemala tanneries, the Republic during 1915 exported 104,593 hides, valued at $506,961. Of this total 100,931 hides were sent to the United States. Hides are subjected to an export tax of $1.50 United States gold per 100 kilos. Cotton fabrics were imported to the value of $758,570, of which $455,540 worth came from the United States, a gain of 32 per cent over 1914 for American cotton goods. The value of the imports of woolens and worsteds was $52,308, of which $9,308 came from the United States. Electrical goods and wares of the value of $33,590 United States gold were imported; of this amount $23,247 worth came from the United States. Iron and steel imports were valued at $121,198, of which the United States supplied $86,796. Products of iron and wood imported were valued at $86,726, of which $34,473 worth came from the United States. The imports of drugs and medicines had a total value of $108,666, of which the United States supplied $68,239 worth. Guatemala in 1915 also imported 6,000 reams of news paper, valued at $16,000, from the United States, while paper of other classes to the value of nearly $131,000 was imported. Of this latter the United States furnished $102,000 worth and Spain $29,000. Advance figures give the total foreign trade in 1916 as $17,336,761 United States gold, of which $10,617,295 represented exports and $6,719,466 imports. The exports to the United States, according to customs statistics, were valued at $8,668,573. Coffee constituted the chief article of shipment, the value being $6,301,337, followed by bananas, valued at $1,035,427, and hides, over $500,000. In the imports the share of the United States was $5,228,897, or 77.74 per cent of the total. The chief import from the United States was cotton goods valued at $952,086, followed by flour amounting to $612,809.

## MANUFACTURES

For the partial supply of local needs a number of small establishments are maintained, the chief products being coarse textiles, hats, leather, shoes, pottery, cement tiles ("canefas"), cigars, musical instruments, furniture, agricultural implements, and

liquors. The salt industry is important on the Pacific coast and there are salt mines in Huehuetenango and Verapaz. In 1915 the production amounted to 8,740,000 kilos (kilo = 2.204 pounds).

## SHIPPING AND NAVIGATION

Steamers of the coastwise service between San Francisco and Panama make regular calls at San José, Ocós and Champerico. From New York to Puerto Barrios, passengers and freight are carried by two steamship lines. The steamers of the American Fruit Company ply between New Orleans and Puerto Barrios.

## RAILWAYS, ROADS, TELEGRAPHS, ETC.

The Central Railway, the first line built in the Republic, was completed in 1882. It connects the port of San José with Guatemala City. The Champerico Railway runs from the Pacific port of that name to Retalhulen and San Felipe, a distance of 41 miles. The Ocós Railway connects the wharf at Ocós with the town of Ayutla, near the Mexican frontier, and ends at Vado Ancho. The Northern Railroad which connects Puerto Barrios with Guatemala City (and thus, in conjunction with the Central, supplies railway transportation from coast to coast), has a total length of 195 miles. In 1916 there were about 500 miles of railway in the republic, and new lines are projected or in course of construction. In January 1917 freight and passenger services were inaugurated on the new 12-mile line from Puerto Barrios to Manoca. A tunnel planned and completed by American engineers, cutting the steep grade at Corozo Hill, made possible the improved schedules.

An important highway from Sanarate has been completed, giving access to the northern agricultural districts. The republic had in actual operation in 1916 about 4,300 miles of telegraph and telephone wires, with over 333 offices and stations.

## FINANCES

The foreign debt is held mainly in England and Germany, and interest on it is already about 18 years in arrears; the total public debt being approximately $17,600,000 gold, of which about $12,000,000 (including arrears of interest) is the present amount of

the foreign debt. The public revenues are derived chiefly from duties on imports and an export tax on coffee. The budget for 1915–16 was estimated at 60,082,640 pesos paper, or a little more than $3,000,000.

## WEIGHTS, MEASURES AND MONEY

The French metric system is used, concurrently with the old Spanish system of weights and measures. The latter has: *Onza* (ounce), *libra* (pound, strictly 1.043 pounds), *arroba* (25 libras), *quintal* (100 libras), *tonelada* (ton 20 *quintals*), and *fanega* (1½ bushels). Guatemala has nominally the silver standard. The present currency, however, is inconvertible paper, which although it circulates freely in the republic, has no fixed value in relation to gold or foreign exchange. The silver peso, divided into 100 centavos and weighing 25 grammes of silver, .900 fine, or say 22.500 grammes fine silver, was adopted in 1870 as the monetary unit. It is in reality the unit of account. At present, practically no gold or silver coins circulate. (Consult Cosby, J. T., *Latin American Monetary Systems and Exchange Conditions*, New York 1915). The principal banks — all located in Guatemala City — are the Banco Americano de Guatemala, Banco de Guatemala, and Banco Internacional.

## POPULATION

Full-blooded Indians are much more numerous in Guatemala than in other Central American countries; in fact they, with the Indians of mixed blood, ladinos and mestizos, make up the bulk of the population. The natural increase among these people is indicated in the report of the secretary of public works for 1901, which shows 66,728 births in that year against 35,618 deaths, a gain of 31,110 persons. The total number of inhabitants in 1916 was given as 2,119,165.

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## POLITICAL DIVISIONS AND CITIES

Guatemala is administratively divided into 22 Departments. The total area of the Republic is estimated at 48,290 square miles and the population in 1916 was estimated at 2,119,165. The Departments, with their capitals and the populations of the latter, are as follows:

| DEPARTMENT | Capital | Population |
|---|---|---|
| Alta Verapaz | Cobán | |
| Amatitlan | Amatitlan | |
| Baja Verapaz | Salamá | |
| Chimaltenango | Chimaltenango | |
| Chiquimula | Chiquimula | |
| El Petén | Flores | |
| El Quiché | Santa Cruz | |
| Esquintla | Esquintla | |
| Guatemala | Guatemala City | |
| Huehuetenango | Huehuetenango | |
| Izabal | Livingston | |
| Jalapa | Jalapa | |
| Jutiapa | Jutiapa | |
| Quezaltenango | Quezaltenango | |
| Retalhuleu | Retalhuleu | |
| Sacatepequez | Antigua | |
| San Marcos | San Marcos | |
| Santa Rosa | Cuajiniquilapa | |
| Sololá | Sololá | |
| Suchitepequez | Mazatenango | |
| Totonicapam | Totonicapam | |
| Zacapa | Zacapa | |

### Guatemala or Santiago de Guatemala

The capital of the Republic is situated on a plateau 5,000 feet above sea level 85 miles from the Pacific coast. It is surrounded by green-clad hills and imposing volcanoes. The climate is that of perpetual spring. Broad streets and attractive buildings are characteristics. The city has a good water supply, and has electric lights, street cars, and all modern conveniences. It is the seat of the International Bureau for promoting the agriculture, commerce and industries of the Central American republics. The city has a modern brewery and manufactories of earthenware, cotton goods, cigars and cigarettes, leather, gold and silver articles, and is the seat of a United States consul. Guatemala is connected by railway with Puerto Barrios, 194 miles distant on the east coast, and with San José, 85 miles distant on the Pacific coast.

### Quezaltenango

The second city of Guatemala is situated at an elevation of 7,351 feet above sea level, 120 miles west of the capital with which it is connected by a railway. It is also connected by rail with the Pacific port of Champerico, 75 miles distant. The surrounding valleys are rich and productive and celebrated for the yield of corn, wheat, and in the lower districts for coffee. The climate is cool and healthful and the water supply of the city is good. There is a large trade in the agricultural products of the region and there are a modern brewery under native management and manufactories of cotton and woolen goods mostly to supply home consumption.

# HONDURAS

By Marrion Wilcox

## GENERAL DESCRIPTION

THE Republic of Honduras is a country of Central America, bounded on the north and northeast by the Gulf of Honduras and the Caribbean Sea; on the southeast and south by Nicaragua; and on the southwest and west by the Pacific Ocean (Gulf of Fonseca), Salvador, and Guatemala. Estimated area, 46,250 square miles. The republic, divided into 17 departments and one territory, has as its present capital the city of Tegucigalpa, the only national capital in the new world without a railway. The number of Tegucigalpa's inhabitants was given in 1916 as 40,000. It is situated on an interior plateau about 3,200 feet above sea-level, 12 hours' journey by automobile from the nearest port, Amapala.

Mountain ranges, which rise to heights of 5,000 or even 10,000 feet, are massed in the western half of the republic; the Juticalpa, Jamasca, and Tompocente ranges, however, are near the frontier of Nicaragua in the east. Rivers emptying into the Caribbean Sea or Gulf of Honduras are the Patuca, in the east, and the Ulua, etc., in the west. The Cholnteca flows southward from the Misoco Mountains near Tegucigalpa, and empties into Fonseca Bay, on the Pacific coast. Large lakes are the Caratasca (more properly, a lagoon), on the Mosquito coast, and Yojoa, among the western mountains. The chief port on the Pacific is Amapala; other ports of entry are Puerto Cortés (on the Gulf of Honduras), La Ceiba, Trujillo, Roatan, and Omoa.

## HISTORY

The first place of debarkation of Christopher Columbus on the American mainland was near the present Cape Honduras, where he landed on Sunday, 14 Aug. 1502. On the following Wednesday Bartholomew Columbus landed at the mouth of Rio Tinto. They sailed thence along the coast to Cape Gracias á Dios. (See CENTRAL AMERICA). The conquest of the country was effected by Hernan Cortés, who found the natives manageable, but their land "covered with awfully miry swamps," as he wrote to the Spanish monarch 3 Sept. 1526. "I can assure your majesty," he adds, "that even on the tops of the hills our horses, led as they were by hand, and without their riders, sank to their girths in the mire." (Fifth letter of Cortés to the Emperor Charles V.). The most important fact in the history of Honduras — the fact that the Indians remained in possession of so large a portion of the country that their descendants constitute the bulk of the population to-day — is a consequence of the policy observed by Cortés and his successors. The natives were tractable; without their assistance it would have been impossible to move about among the dense forests, swamps, and mountains; therefore the Spaniards realized that more was to be accomplished by diplomacy than by force. Massacres occurred, but extermination was not attempted; on the contrary, Honduras became in time a nation of Spanish-speaking Indians, those of pure or nearly pure blood being more numerous now than before the conquest. (For the era of the struggle for independence and of confederation with the neighboring states, see CENTRAL AMERICA). Three years before the



View of Central Part of Tegucigalpa, Honduras

violent termination of the last effort to form a political union with Nicaragua and Salvador, Honduras was called upon to resist (1860) the landing at Trujillo of a small filibustering expedition from the United States led by William Walker. Between 1871 and 1877 the country endured both war and revolution. Comayagua ceased to be the national capital, and the government was established at Tegucigalpa in 1880. General Sierra was elected to the Presidency, 1899–1903; Gen. Manuel Bonilla, 1903–07. Honduras and Salvador were at war with Guatemala for a short time in 1906. In 1910–11 two revolutionary movements occurred, and intervention by the United States became necessary. Señor Dávila resigned the Presidency; General Bonilla was elected for the term 1912–16, but died 31 March 1913. The unexpired term was filled by Sr. Francisco Bertrand, who retired from office 28 July 1915 in order to comply with the constitutional provision that no one shall assume the Presidency who has held that office at any time during the six months immediately preceding the inauguration. He was duly re-elected for the term 1916–20.

## GOVERNMENT AND ARMY

The first constitution of Honduras was adopted in 1848, the second in 1865, the third in 1880, and the fourth, under which the country is governed to-day, became operative 1 Jan. 1895. (Moe's *Honduras:* see *Bibliography*). There were, in addition, other even more tentative schemes of government, which hardly merit inclusion in this sequence. The usual division of authority between legislative, executive, and judicial branches is followed; the Congress, however, is a single body, "the Chamber of Deputies, consisting of 42 members, elected by direct vote for a term of four years at the rate of one deputy for every 10,000 inhabitants." (*General Descriptive Data:* see *Bibliography*). The chamber is renewed by halves every second year, and for each deputy a substitute is elected to take his place whenever necessary. All male literate citizens over 18 years of age if married, or 21 if unmarried, "are not only entitled but are compelled to vote." The President and Vice-President are elected for a term of four years by direct vote. The President is assisted by a cabinet of six ministers: Minister of Government and Justice; of Promotion (Fomento), Public Works and Agriculture; Foreign Relations and Public Instruction; War and Navy; Treasury and

Public Credit. The judicial branch includes a supreme court (five justices elected by popular vote for four years); municipal courts (judges appointed by supreme court), and justices of the peace elected by popular vote. Title III, Art. 10 of the constitution declares that "The Republic of Honduras is a sacred refuge for every person fleeing to its territory," and by Title V, Art. 27 the death penalty is absolutely abolished. Military service is compulsory. The standing army numbers 2,000, approximately, and the reserve has 45,000 officers and men. Two small vessels are placed in the care of the Minister of War and Navy, for patrol duty along the coasts.



Cathedral at Tegucigalpa, Honduras

## EDUCATION AND RELIGION

The institutions for secondary education under public control are the National Institute of Tegucigalpa, the National College of Santa Rosa, "La Independencia" of Santa Barbara, and "La Fraternidad" of Juticalpa. A school of commerce is annexed to the National Institute. (*Dept. of the Interior: Report of Commissioner of Education*, Vol. I, Washington 1915). Education is nominally "free and compulsory"; and facilities are actually provided at Ceiba, where schools are supported by the municipal government, and to a limited extent in poorer sections by a small tax or assessment imposed by the national government. The university at Tegucigalpa has faculties of medicine, law, etc. According to an official statement, "mixed" schools, attended by boys and girls together, will be established in rural districts. Pre-

vision for agricultural training has not been made on an adequate scale. Freedom of worship is secured by constitutional guaranty; the government does not contribute to the support of any church; the prevailing religion is Roman Catholicism.

## AGRICULTURE

Agriculture receives more attention than formerly. The leading product for home consumption is still maize, of which about 500,000 bushels are raised annually, chiefly in the departments of Copán, Gracias, and Santa Barbara. Bananas are cultivated for export principally; and we find that, although the banana grows wild in nearly all parts of Honduras up to an elevation of 3,000 feet, the industry (at present the most important one) of cultivating this fruit for export is confined to the hot lands along the north coast, not extending farther inland than 50 or 75 miles. Naturally the shipping-points are Puerto Cortés, Ceiba and Trujillo, adjoining such lands, and from the first-mentioned the shipments "average about $1,000,000 in value a year." (From *General Descriptive Data*; see *Bibliography*.) The annual wheat crop is about 15,000 bushels; rice 4,000,000 pounds, and tobacco, 1,500,000 pounds. Nearly 20,000 acres are devoted to the cultivation of plantains. Cocoanuts, lemons, and oranges are produced for export on a large scale. Sugar cane is cultivated on 13,263 acres; indigo on about 9,000 acres. The total value of agricultural products annually is about $3,000,000. The number of cattle is estimated at 571,120; horses, 43,549; mules, about 14,000, etc. Large quantities of sarsaparilla (the product of the *smilax medica*) are exported to the United States.

## COMMERCE AND MANUFACTURES

The fiscal year 1913–14 is the latest to which we should direct our attention when studying normal conditions of commerce in Honduras, for the simple reason that prolonged drought during subsequent years occasioned short crops and "has been a calamity perhaps greater for Honduras than the European war." (Group Conference Report, in *Financial Conference, Proceedings*, etc. See *Bibliography*). The total value of the republic's foreign commerce in the fiscal year 1913–14 was, then, $10,046,261, that being

the sum of imports, $6,624,930, and exports $3,421,331. Products exported were: Bananas, 6,610,164 bunches; coffee, 1,214,454 pounds; cocoanuts, 10,366,955; hides, 805,861 pounds; deerskins, 81,791 pounds; gold and silver cyanides, 156,685 pounds. The distribution of foreign trade was: United States, $5,262,043 imports and $2,914,157 exports; Great Britain, $459,762 imports and $17,896 exports; France, $141,597 imports and $5,353 exports; Germany, $521,837 imports and $164,697 exports.



Pile of Tailings, Mining District of Honduras

## MINERALS AND WOODS

Gold is found between the south and centre; silver in almost all sections. Lead, copper, saltpeter, iron, coal, zinc, and antimony are also widely distributed. The value of ores produced annually is approximately $1,000,000 (that is 20,000 ounces of gold, 1,000,000 ounces of silver, and a considerable quantity of copper). Only about 5 per cent of the mines of the country are being worked. The forests from sea-level to an altitude of 1,000 feet, contain mahogany, ebony, dyewoods, sarsaparilla and other medicinal plants, and cabinet woods, cedar, etc. At an elevation of 1,800 feet are dense and very extensive forests of pine and similar woods.

## BANKING AND FINANCE

The unit of the monetary system, which is based on the silver standard, is the peso, divided into 100 centavos and weighing 25 grammes of silver .900 fine, or say 22.500 grammes fine silver. The value of the peso of Honduras fluctuates with the rise and

fall of the price of silver in the international market. Thus, it was given as about $0.42 currency of the United States in April 1916; but $0.39786, with silver at 55 cents an ounce as a basis, is the value assigned in *Latin American Monetary Systems and Exchange Conditions* (New York 1915) and in Gonzales, V., *Modern Foreign Exchange* (New York 1914). Principal banks, in 1915, were the Banco de Honduras and the Banco de Comercio at the capital and the Banco Atlántida at Ceiba. The interior debt of the nation, according to the message of the President to Congress in 1915, amounted, on 31 July 1914, to 4,611,464.68 pesos. The Group Conference Report in *Financial Conference Proceedings* (see *Bibliography*) contains the following statements: "There is a heavy external debt weighing upon the credit of the Republic. This consists principally of bonds issued for the construction of the railway from Puerto Cortés to La Pimienta and the arrears of interest thereon. The British Council for Foreign Bondholders represents the holders of these bonds." "The establishment of the gold standard in Honduras would be a very desirable reform. It is not probable that this could be carried out until the country's external debt, now in default, has been adjusted." The amount of the external debt was given (1 Jan. 1914) as £23,693,969, of which £18,295,399 represented arrears of interest. In other words, a debt of less than $26,000,000 increased to $120,000,000, approximately, by 1917. The budget for 1915–16 estimated receipts at 5,929,420 pesos, and the value of the peso at that time was approximately 36.15 cents, currency of the United States.

## TRANSPORTATION AND COMMUNICATION

The National Railway extends from Puerto Cortés to Pimienta, 56 miles. Privately owned lines in the banana regions aggregate about 109 miles. The Ulua River is navigable for a distance of 125 miles, and other streams facilitate, to a limited extent, communication between the north coast and the interior. On that coast service with Puerto Cortés (and occasionally Ceiba, Trujillo, and Tela) is maintained by steamers from New Orleans, New York, and Mobile. On the Pacific coast dependence is placed upon the San Francisco-Panama steamship lines. There are 278 post offices. The number of letters (both internal and foreign correspondence) is not more than 1,550,000 in a year. The republic has 281 miles of telegraph wire; the capital and some other towns telephone services.

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## POLITICAL DIVISIONS AND CITIES

The Republic of Honduras is divided politically into 17 Departments and one Territory, which are again divided into districts. The principal cities are as follows:

### Tegucigalpa

The capital of the Republic, lies on an interior plateau at an elevation of about 3,200 feet, and is the only capital of Latin America without a railway. A fine road connects the south (Pacific) coast at San Lorenzo, across a bay from Amapala, with the capital, and an automobile service covers the approximately 62 miles in less than 12 hours. The city has several substantial buildings and a fine public square. The location is healthful and the surrounding region is thickly populated. Mines of gold, silver and marble are worked in the vicinity. It is the seat of a United States consul. The population is estimated at 22,923.

### Other Cities

San Pedro Sula, near the north coast, is connected by rail with Puerto Cortés and is a thriving centre of trade in the products of the surrounding district; these include cotton, sugar cane, coffee, tobacco, bananas, and other tropical and sub-tropical products, also timber and dyewoods. Puerto Cortés is of growing importance as a port. It has regular steamer communication with New Orleans, Mobile and New York. The shipments of bananas from Puerto Cortés average about $1,000,000 in value a year. La Ceiba, Tela, and Trujillo on the north coast are other important shipping points for the banana industry. Amapala on the south coast is the most active port in the Republic for the foreign commerce passing through it. It has regular steamer communication with San Francisco. There are United States consuls at Ceiba and Puerto Cortés, and consular agents in Tela, San Pedro Sula, and Amapala.

# NICARAGUA

By Marrion Wilcox

## NATURAL BOUNDARIES, GEOGRAPHY, ETC.

THE Republic of Nicaragua is a country of Central America, bounded on the north by Honduras, on the east by the Caribbean Sea, on the south by Costa Rica, and on the southwest and west by the Pacific Ocean. It has 200 miles of sea-coast on the Pacific and about 300 miles on the Caribbean. Its area, according to conservative estimates, was formerly given as 40,000 square miles; including Mosquitia it is 49,200 square miles. (For departments, departmental capitals, and districts, see Political Divisions and Cities, p. 579). The strip of Caribbean coast "annexed" in 1894 by President Zelaya was formerly the Mosquito Reserve, or Mosquitia, a British protectorate; but Great Britain has gradually withdrawn in Nicaragua's favor her claim to exercise jurisdiction there. This eastern coast is now regarded as one of the most valuable parts of the republic; and of the "Atlantic Slope" — the Caribbean side in general — we may say that it contains placer mines, its fruit industry is already profitable, large plantations of rubber trees are being cultivated, and rosewood, cedar, and mahogany are taken from its forests.

### Physical Features

The Sierra de los Morabios, running from the Gulf of Fonseca to the western shore of Lake Managua, appears to be the centre of volcanic energy in Nicaragua. It has the following vents: Cosigüina (famous on account of the terrific explosion of 2 Jan. 1835), Chonco, El Viejo (quiet since 1684), Santa Clara, Telica, San Jacinto, Rota, Las Pilas (eruption in 1850), Asososco, and

Momotombo (eruptions in 1870 and 1886); and though only two of these may be described as active, the others are dormant, rather than extinct. This ridge is near the Pacific coast, and its southeasterly trend is continued by the isolated volcanoes Masaya (active), Apoyo (extinct), Mombacho, Ometepe, and Madera (extinct). The two last are on an island near the western shore of Lake Nicaragua, and but a few miles from the nearest point in Costa Rica. In other words, practically the entire Pacific coast range is intensely volcanic; the only exception being found at Brito and the neighborhood southwest and south of Ometepe and Madera, where, according to the views of some geologists, the "internal fissure in the earth's crust that gave rise to the several volcanic vents of Central America" is "completely built up and healed. Hence the low gap in the grand American cordillera found at that place, which has a mean height of about 150 feet above sea-level, the lowest gap from Alaska to Tierra del Fuego." Through this gap, over this "healed fissure," the Nicaragua Canal (q.v.) was to have been cut. The volcanic characteristics are not found far inland, but are restricted almost entirely to the western border; nevertheless the principal cities are built in this narrow strip of land between the Pacific and the lakes. Chinandega, near the coast in the northwest, has about 11,000 inhabitants; Léon, 63,000; Managua, capital of the republic, 35,000; Masaya, 13,000; and Granada, on the west shore of Lake Nicaragua, 17,000. Of these the largest and most beautiful city, León, contains the cathedral of St. Peter which, it is said, was built at a cost of $5,000,000 when labor was valued at 25 cents a day. From the roof of this great church can be seen in one view 13 volcanoes. In the central region the largest town is Matagalpa (15,000 to 16,000). The western strip, despite its insecurity and oppressive climate, has been preferred as a place of residence by the majority of the Nicaraguans on account of its facilities for communication and transportation — among which are to be reckoned the great lakes, Nicaragua (92 miles long by 34 miles wide) and Managua (32 miles long by 16 miles wide), connected by a river which could, without difficulty, be rendered navigable. The greater part of the republic, stretching eastward from the lakes to the department of Zelaya, is of a different geologic formation. It is covered with a chain of mountains of moderate height, and transverse spurs which are not volcanic extrusions but Antillean folds. (See article Central America, p. 521). Many parts of the central uplands are comparatively cool and well watered, with very rich soil and nearly untouched treasures in forest and mine; but they have

remained undeveloped hitherto chiefly on account of the lack of good roads. The earthquake shocks of Nicaragua are less severe than those of Guatemala and Salvador, and dangerous fevers prevail chiefly, though not exclusively, in the lowlands or near stagnant water. The large rivers, rising in the central mountains and emptying into the Caribbean Sea, are the Segovia, also called Coco or Wanks, which forms the boundary with Honduras, the Grande, the Kurringwas, and the Bluefields or Mico. The San Juan flows from Lake Nicaragua to the Caribbean, and in part forms the boundary with Costa Rica on the south. The route of the Caribbean section of the canal, for which the waters of the San Juan would have been utilized, included a cut through Costa Rican territory west of Ochoa.

### Fauna and Flora

The fauna includes the puma, deer, jaguar, monkeys, alligators, armadillos, ant-eaters, guatuso, peccaries or wild hogs, and many species of reptiles, some very poisonous. There are large herds of cattle. Prominent among avifauna are macaws, parrots, buzzards, wild turkeys, and humming-birds. Insect life is superabundant. Great trees extend over the eastern plain and the ground beneath them is covered with a dense network of vines and bushes. There are over 70 varieties of fruit trees, of which about 55 receive a measure of cultivation. About 50 varieties furnish various gums, resins, balsams, oils, spices, fibres, used in the industries and in medicine, and about an equal number of varieties furnish hardwood lumber. Citrus fruits abound in the western portion, and rubber also is plentiful. The forest resources have been utilized but little. Most tropical crops such as bananas, cocoanuts, plantains, oranges and pineapples, coffee, sugar, corn and beans, are grown and the area of cultivation is on the increase and would increase more rapidly but for the scarcity of labor. (See article Latin America: Fauna and Flora, p. 11).

### Mineral Resources

Among the Central American republics, Nicaragua ranks second (Honduras being first) in respect to mineral wealth. Gold and silver are found in the departments of New Segovia, Chontales, Zelaya, León, Matagalpa, and Jinotega; copper in León, New Segovia, and Matagalpa; lead and iron in New Segovia and Matagalpa; mercury, salt, sulphate of lime, sulphur, and combustible minerals in León; tin in New Segovia; nickel and zinc in

Matagalpa. More than 500 mines are registered in the national bureau of statistics, and 494 of these are set down as producers of gold. Antimony, arsenic and other metals have been found but in unimportant quantities. In the 16th and 17th centuries great quantities of silver were produced and rich deposits of this metal are known to exist.

## HISTORY

On 21 Jan. 1522 Gil Gonzalez Dávilla with four vessels sailed westward from Panama in search of the Spice Islands. Proceeding along the Pacific coast, after many mishaps, he reached the home of an Indian chief whose name was Nicaragua, and converted him to Christianity. On the same day 9,017 natives, if we may believe the commander's assertion, accepted baptism. Nicaragua's town stood on the shore of the lake to which his name has been given. Gil Gonzalez heard from the pilots he had with him that, by way of the lake and river, there was easy communication between the " North Sea " and the " South Sea "; and he wrote that only " 2 or 3 leagues of very level road " separated the ocean from the lake. Until 1718 the isthmus, including the province of Nicaragua, was subject to the viceroy of Peru; after that to the Spanish representative at Bogotá. New Granada (Colombia)



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In Granada, Nicaragua

continued to claim certain rights in the entire isthmian territory, even up to Cape Gracias á Dios. The most interesting period is that in which occurred the invasion and temporary conquest of Nicaragua by William Walker, of Nashville, Tenn., with his 56 "emigrants." Walker became virtually dictator in 1856. His aim, disclosed to one of his associates, was to found an empire embracing Central America and Mexico. (See *Bibliography*). In 1895 the short-lived "Greater Republic of Central America" was formed by the association of Nicaragua with Salvador and Honduras. It could hardly be called a genuine union.

Three years later that attempt to displace permanently the separatist tendencies was abandoned; but again (in 1907) a similar object was sought, and on this occasion the consequences were twofold — not alone the comparatively unimportant attacks by means of which Zelaya hoped by force to drive the Central American states into a confederation under his own leadership, but also the truly important interposition of the United States and Mexico and the peace conference held at Washington in November and December. The conference was attended by delegates from all the Central American countries, and a progressive effort then and there began to safeguard the interests of all by treaty and by conventions that seemed in the main well and wisely planned. In 1908 Great Britain recognized Nicaragua's sovereignty over the Mosquito Reservation, and in the same year Nicaragua concluded treaties of commerce with Italy and Belgium. In 1909 the measure of local discontent with President Zelaya's aggressive foreign policy, and perhaps even more with the monopolies and concessions that seemed oppressive in Nicaragua itself, was filled to overflowing. Among other difficulties, there was a claim advanced by citizens of the United States; and the presence of American cruisers in the vicinity of Nicaraguan ports soon lent a threatening aspect to a demand (17 March) for the submission of that claim to arbitration. It was so referred in May. Early in October a candidate for the office of chief executive, Gen. Juan J. Estrada, secured a following that justified revolution; the Atlantic coast towns over-promptly surrendered to him or his forces; there were several miniature battles; and finally he was proclaimed the "provisional President," although Zelaya was still to be reckoned with. On 18 November reports of the shooting of Groce and Cannon (citizens of the United States) by Zelaya's order led to a declaration (22 November) that the government of the United States would demand reparation; and on 1 December the Estrada government was recognized, and Zelaya's representative at Washing-

ton was dismissed with the warning that the United States would hold those who had ordered the execution of Groce and Cannon personally responsible. On 16 December Zelaya at last surrendered the cares of office. During 1910 the ruinous civil war continued, arraying East against West, until the latter section yielded and its capital, Managua, was taken at the end of August. Then General Estrada asserted authority as Provisional President, issuing on 15 September a call for a presidential election. Before that could be held Adolfo Diaz was inaugurated as Provisional President. On 7 Oct. 1911 the National Constituent Assembly elected General Mena President for a four-year term. Many concessions that Zelaya had granted were now repealed, on the ground, of course, that the lawful authority of a president had been exceeded, to the detriment of the country's interests. Re-establishment of diplomatic relations with the United States was marked by the appointment of Elliott Northcott as minister, and San Juan del Norte, or Greytown, was made a free port. But the crisis was not past.

The election of Mena by the Constituent Assembly, as mentioned above, was simply invalid in view of a certain agreement, known as the Dawson conventions, to which Mena was a party and which provided that a quite different method should be adopted — an election by the people rather than by the Constituent Assembly — to ascertain the nation's real choice of successors to the Provisional President and Vice-President. Mena, refusing to accept his fate, revolted on 29 July 1912; the Minister of the United States thereupon demanded protection for American lives and property; Provisional President Diaz requested assistance; in response marines under Rear-Admiral Southerland were sent to Nicaragua, and the surrender of Mena with 700 men took place on 25 September at Granada — at which city also the American Red Cross supplies of food were afterward distributed. By successes at Masaya, Granada, León, Chichigalpa and Chinandega, the American forces gained mastery of the entire region along the railway from Corinto to Managua, and fighting came to an end. A prompt withdrawal of the American forces should be noted: by 1 December only a legation-guard of 400 marines remained at Managua. The elections held on 2 November resulted in the choice of Adolfo Diaz for a four-year term beginning 1 Jan. 1913. Peace having been established, indispensable arrangements were made with foreign bondholders and the National Bank of Nicaragua, Inc., designed to act as fiscal agent of the republic, began its useful work at the capital in October 1912.

### The "Nicaragua Canal" Treaty

On 26 Feb. 1913 the Senate of the United States took into consideration a proposed new convention or treaty with Nicaragua, negotiated with the object of granting, on the one side, and of securing, on the other side, to the United States as an exclusive privilege the perpetual right to construct a canal across Nicaragua. That convention, signed in 1914 and ratified by Nicaragua but not by the Senate of the United States until 1916, made provision for the payment of $3,000,000 for the canal option and (among other things) for a naval station on the Gulf of Fonseca, at which begins the boundary with Honduras and upon which the Republic of Salvador also looks out. As a matter of fact, the control of that important gulf is shared among the three nations of the old "Greater Republic of Central America" mentioned above; at the northern end of the route Costa Rica's boundary must be crossed; and this division of interest and control is but a reminder of difficulties that have been encountered whenever the Government of the United States in the past, before the selection of the Panama route, endeavored to make satisfactory arrangements for cutting a canal by way of Lake Nicaragua. Ratification of the "Convention between the United States and Nicaragua" was advised by the Senate, with amendments, 18 Feb. 1916; on 19 June 1916 the convention was ratified by the President; on 24 June 1916 it was proclaimed (*Treaty Series, No. 624*, Washington 1916). In Article I "The Government of Nicaragua grants in perpetuity to the Government of the United States, forever free from all taxation or other public charge, the exclusive proprietary rights necessary and convenient for the construction, operation and maintenance of an interoceanic canal by way of the San Juan River and the Great Lake of Nicaragua or by way of any route over Nicaraguan territory." In Article II the Government of Nicaragua "leases for a term of 99 years to the Government of the United States the islands in the Caribbean Sea known as Great Corn Island and Little Corn Island; and the Government of Nicaragua further grants to the Government of the United States for a like period of 99 years the right to establish, operate and maintain a naval base at such place on the territory of Nicaragua bordering upon the Gulf of Fonseca as the Government of the United States may select. The Government of the United States shall have the option of renewing for a further term of 99 years the above leases and grants upon the expiration of their respective terms, it being expressly agreed that the territory hereby leased

and the naval base which may be maintained under the grant aforesaid shall be subject exclusively to the laws and sovereign authority of the United States during the terms of such lease and grant and of any renewal or renewals thereof." Article III relates to the payment above mentioned, etc. The consent of the Senate of the United States to the ratification of this convention was given with the proviso " that nothing in said convention is intended to affect any existing right " of Costa Rica, Salvador and Honduras.

## GOVERNMENT

The present constitution was promulgated 12 March 1912 and came into operation on 5 April 1913, with the exception of Articles 168 and 170. The congress, composed of two chambers, the Senate of 13 members, and a Chamber of 40 Deputies, meets annually at Managua, 15 December. Both senators and deputies are chosen by direct popular vote, and all male citizens over the age of 21 are entitled to vote, as are also " those over 18 years of age who are married or who can read and write " (*Pan American Union Handbook:* see *Bibliography*). The Chamber of Deputies is renewed by halves and the Senate by thirds every two years. Senators are elected for six years and must be secular citizens over 40 years of age. Deputies are elected for four years and must be secular citizens over 25 years of age. Senators and Deputies are elected directly by the vote of the people, the department of the Republic being divided into electoral districts, there being one deputy for each 15,000 inhabitants or fraction above 8,000. Each district elects one Deputy and one Alternate. Each department elects one Senator and one Alternate for each two Deputies to which it is entitled. The executive power is vested in a President and a Vice-President, who must be native citizens over 30 years of age, and who are elected by direct popular vote for a four-year term, with the express provision that the President is ineligible to succeed himself in office. There are five cabinet ministers, the departments being: Government, Justice, Police, and Charities; Foreign Relations and Public Instruction; Treasury and Public Credit; War and Navy; Promotion (Fomento) and Public Works. A supreme court of justice holds its sessions at Managua. There are also courts of appeals in León, Granada, and Bluefields, besides several district or local courts. The governors of the departments are appointed by the President. They also command the local military forces.

### Education and Religion

Earnest efforts are being made by the Government to secure competent instructors and to increase the number of school buildings. The school age, as prescribed by law, is, for each child, the period from five to 14 years. The principal university, with faculties of law and medicine, is located at León. Other universities are situated at Granada and Managua, with faculties of law only. There are two normal schools and eight colleges at Managua, and schools of telegraphy at Managua and Granada. A national industrial, commercial and scientific museum has been established at Managua. Altogether there are about 40 institutions for higher education, and about 350 elementary schools in the republic supported by the government. These employ over 390 teachers and are attended by more than 15,000 pupils. There are a few private schools. The prevailing form of religion is Roman Catholic but freedom is accorded to all denominations and special favors prohibited to any. The Roman church has two archbishopries, Managua and León, and two bishopries, Granada and Matagalpa.

## INDUSTRY AND COMMERCE

The forests contain mahogany, ebony, cedar, quebracho, light rosewood, mora, brazilwood, vanilla, sarsaparilla, vegetable wax, ipecacuanha, quinquina, copaiba, balsam, rhubarb, etc. In many parts of the republic — near both coasts, in the valleys, on the slopes and plateaus near the lakes and rivers — soils of exceptional value for agricultural purposes are found; and though the system of cultivation is rudimentary, extraordinary results are sometimes achieved. Thus, it is said on good authority that sugar cane produces at least two annual crops, and sometimes three; cotton planted in October is picked the following February on all the western lands; the virgin soil of the eastern slope yields four crops of maize in a year; and indigo can be cut three times before replanting becomes necessary. Coffee thrives best at elevations between 2,000 and 3,000 feet above sea-level. In the highlands of the northwest coffee is extensively grown. In 1913, 11,192,908 kilos, value at $5,004,449, were exported. Rice produces abundantly on central and eastern slopes. The systematic cultivation of rubber has been undertaken recently. Bananas are grown in the west, principally in the departments of León and Managua, for home consumption; in the east, on a large scale, for export.

The annual yield of cacao is insufficient to supply the local demand; in quality, however, it is so excellent that it brings a higher price in the home market than the imported chocolates. The selling price is from 20 to 25 cents gold per pound. Tobacco and aguardiente (made from sugar cane) are government monopolies. Tobacco is grown in several districts, the best being produced on the island of Omõtepe, in Lake Nicaragua. Cotton, corn, breadfruit, black beans, and sweet potatoes are produced in large quantities in the western part of the republic, and occasionally small quantities of beans, corn, cheese, lard, and sugar are exported to the neighboring republics. In the upland regions the vegetables of the temperate zone are produced. Cattle raising is becoming an important industry in the northwest, and quantities of hides are exported. There are 1,200,000 cattle in Nicaragua. Horses and swine are reared.

Cigars are produced in large quantities. There are few manufacturing enterprises and these are engaged in turning out articles of a cheap grade for domestic consumption. Thus coarse cotton fabrics, boots and shoes, candles and soap are manufactured and also a cheap grade of furniture. Roofing tiles and pottery are also produced and the Indian population turns out hammocks, straw hats, gold and silver jewelry and carvings. For the better grades of manufactures the main reliance is upon the country's imports.

Exports consist principally of coffee, rubber, bananas, gold, hides, sugar, fine woods, cacao, cocoanuts, cotton dyes and dyewoods, and silver. The imports are cotton goods, iron and steel manufactures, flour, chemicals, drugs and medicines, etc. In the last normal year, before the outbreak of the war in Europe, imports were valued at $5,770,006 and exports $7,712,047. The principal exports in this year consisted of 11,192,908 kilos of coffee, valued at $5,004,449; gold to the value of $1,063,007; bananas, 1,393,026 bunches, value $429,802; hides and skins, 684,082 kilos, value $326,559; 7,734 tons of wood, value $321,869; rubber, 221,432 kilos, value $278,763; cacao, 65,086 kilos, value $39,828; dyewoods and dyes, 3,984,053 kilos, value $39,455; sugar, 497,217 kilos, value $31,805; 864,857 cocoanuts, value $18,741; silver, 508 kilos, value $17,137. In the same year the principal imports were: Cotton goods, $1,417,032; food products, $890,017; iron and steel manufactures, $786,901; liquors, beer, wines, etc., $238,881; hides and skins, $223,205; chemicals, drugs, and medicines, $231,959; silk goods, $149,905; vegetable fibers and manufactures, $135,008; petroleum, $106,377; woolen goods, $95,797; paper and manufac-

tures, $81,776. For the calendar year 1915 the total value of Nicaragua's imports was $3,159,218 and of exports $4,567,202; her imports from the United States alone were valued at $2,592,799 and exports to the same country $3,079,810.

## SHIPPING, RAILWAYS, ETC.

Corinto, the principal western port, has the advantage of the Pacific coast lines of steamships, American, Chilean, British, etc. Bluefields, on the eastern coast, has regular communication with the United States by means of the vessels of New Orleans and Mobile steamship companies. The Pacific Railroad of Nicaragua is the only line in the republic, in connection with which steamers ply on the lakes. San Juan del Sur is another important port on the Pacific coast, while on the east coast in addition to Bluefields are the ports of Cape Gracias à Dios, Las Perlas, and Greytown (San Juan del Norte). There is now a continuous line connecting the port of Corinto to Chinandega, León, Managua, Masaya,



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Railway Station, Granada, Nicaragua

Granada and Diriamba, with branches to El Viejo and Momotombo and several other branch lines are projected. The total system in operation is 171 miles long. There are 20 miles of private railway on the Atlantic coast near the Rio Grande, and, on the west side of Lake Nicaragua, three private steam tramways aggregating three miles in length. The steamers running on the San Juan River and on the lakes now belong to the Government, as well as steamers for traffic on the Atlantic and Pacific coasts. The national railways have been leased to a company for 15 years and the steamers for 25 years from 1 Jan. 1905. In 1901 an American syndicate undertook the construction of cart roads to supply communication with Matagalpa, New Segovia, and other points in the interior. There are in operation about 3,637 miles of telegraph lines with 130 offices, also 805 miles of telephone lines and 29 telephone stations. The number of post offices was about 135 in 1915. The Government is installing wireless telegraph stations at Managua, Granada, San Carlos, San Juan del Norte and Castillo.

## MONETARY SYSTEM, WEIGHTS AND MEASURES

The metric system of weights and measures is in use, and the present monetary system has the gold standard as its basis, the theoretical unit being the córdoba, divided into 100 centavos. "The weight of the theoretical gold unit," Mr. Cosby writes (see *Bibliography*), "is 1.6718 grammes of gold .900 fine, or say 1.50464 grammes of fine gold, and its value in terms of U. S. currency is $1.00. The circulation consists of silver coin and bank notes guaranteed to be payable in gold." Until 24 Mar. 1913 the monetary unit was the silver peso with a nominal value of $0.435, but the actual currency was inconvertible paper, and the exchange rates ranged from 1,000 per cent to 1,700 per cent premium for sight bills on New York. After the establishment of the National Bank of Nicaragua, Inc., certain New York capitalists undertook, through the medium of that bank, the rehabilitation of Nicaragua's finances, with the result that the present monetary system, provided for under the act of 20 Mar. 1912, went into effect 24 Mar. 1913. Under this system the old paper peso circulation is being retired at the rate, now invariable, of one córdoba for 12.50 pesos. To maintain the córdoba at par, there is a "conversion fund" in the United States and Europe.

## BANKING AND FINANCE

A series of economic reforms designed to "remedy the unsatisfactory economic situation of Nicaragua," as the delegate from that country to the Pan American Financial Conference expressed it, began with the effort to put the currency on a sound basis, as described in the foregoing paragraph. Dr. Cuadra's memorandum and the Group Conference Committee Report, both in the *Proceedings of the First Pan American Financial Conference* (Washington 1915), contain an authoritative statement of Nicaragua's financial problems; and we notice particularly the importance attached to the establishment of the National Bank of Nicaragua, which has the exclusive privilege of issuing legal tender notes, subject to the provisions of the monetary law and for the account of the republic only. The National Government owns 49 per cent of its stock, 51 per cent being the property of American bankers. It has a special issue department for the maintenance of the national currency, and its capital, $300,000, may be increased if necessary to meet the country's needs. There are two other banks — private credit institutions that do every kind of banking business except the issuing of notes. Dr. Cuadra states frankly that the public treasury has been and still is in difficulties, which are ascribed to the long period of inflation, the frequent recurrence of revolutions, and former bad governments. "To remedy this evil the present Government of Nicaragua asked a helping hand from the United States"; and through the good offices of the State Department Nicaragua was enabled to enter into such relations with two important American banking houses that, with their aid, it became possible to effect a reorganization of the national railway as well as the monetary reform and the establishment of the national bank. The government's income is only about $2,500,000, and almost all of its debts (aggregating $13,780,662) are described as past due or "pressing." The interior debt was given recently as $6,670,662 and the foreign debt $7,110,000. Speaking as the delegate of Nicaragua, Dr. Cuadra said that his government, having tried repeatedly but without success to obtain a foreign loan, "now expects to apply the $3,000,000 to be paid under the canal treaty with the United States to the payment of those debts which are more pressing, paying off the rest with bonds." The Group Conference Committee expressed the belief that the treaty would encourage the investment of American capital in Nicaragua "by

insuring a continuation of present stable and peaceful conditions." Summarizing the country's natural resources, the committee reported that the lands in the various sections are adapted to the cultivation of coffee, cacao, bananas, cocoanuts, pineapples, citrus fruits, tobacco, sugar, cotton, and rubber, " the success of which has been practically demonstrated, but in a crude and limited manner "; that large areas are well adapted to the raising of cattle, being covered throughout the year with natural grasses of remarkably high food value and watered by perennial streams; that the country is analogous geologically to the State of Nevada, producing both gold and silver in paying quantities, although the mines are operated in the crudest manner; that an extensive area is heavily wooded with primeval forests of mahogany, cedar and other valuable hardwoods, pine and dye-woods; and finally that the need of additional transportation facilities is emphasized by the fact that inhabitants of the one coast are under the necessity of importing articles which are actually produced in and exported from regions along the other coast, though the two littoral regions are only 200 miles apart.

## POPULATION

The estimated population on 31 Dec. 1914 was 703,540, as against 689,891 on 31 Dec. 1913. About 75 per cent of the inhabitants live in the western half of the country. The people of this section are principally of mixed Spanish and Indian extraction, though there are a few families of pure Spanish descent and many full-blooded Indians. The population of the eastern half is composed mainly of Mosquito and Zambo Indians and negroes from Jamaica and other islands in the Caribbean, with some Americans and a small number of Nicaraguans from the west coast. The Indian population is docile and industrious, furnishing most of the country's labor. The Government has made several efforts to induce immigration, but so far the result has been negligible.

## ARMY AND NAVY

Military service is compulsory between 17 and 55 years of age, but the law in this regard is not rigidly enforced. The period of active service is one year. In the active army there are about 4,000 men; in the reserve, about 36,000. The naval branch includes 10 small gunboats or revenue-cutters, of which four are on the lakes, three on the Caribbean, and three on the Pacific coast.

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# POLITICAL DIVISIONS AND CITIES

*Departments.*— Bluefields (formerly Zelaya), cap. Bluefields; Managua, cap. Managua; Granada, cap. Granada; Leon, cap. Leon; Carazo, cap. Jinotepe; Rivas, cap. Rivas; Chinandega, cap. Chinandega; Esteli, cap. Esteli; Jinotega, cap. Jinotega; Nueva Segovia, cap. Ocotal; Matagalpa, cap. Matagalpa; Rio Grande, cap. Rio Grande; Chontales, cap. Juigalpa.

*Districts.*— Cabo Gracias, Prinzapolca, Rio Grande, Siquia, San Juan del Norte.

## Managua

The capital of the Republic is situated on the shores of Lake Managua, in a healthful and fertile district. It is of little importance save as a capital. There is some trade in coffee which is grown in the neighboring districts. It has rail connection with the port of Corinto on the Pacific and with Granada on the shore of Lake Nicaragua. It is the seat of a United States consul. Population 34,872.

## Leon

The former capital and still the largest city of Nicaragua is situated 13 miles from the Pacific coast and 45 miles northwest of Managua. A railway connects it with the port of Corinto and there is a large trade in imported articles and in the products of the region. The population is estimated at 62,569.

## Other Cities

Granada, at the head of navigation on Lake Nicaragua, is situated in a cacao-growing district and has an active trade in cacao, hides, and dyewoods. It has steamer communication with San Juan del Norte on the Caribbean coast. Granada is connected by railway with Managua, Leon and Corinto. The chief port on the Pacific is Corinto, through which flows practically all the foreign commerce of the western division of the Republic. On the east coast the most important port is Bluefields. This is fast becoming a centre for a very large banana industry. It is the seat of a United States consul. San Juan del Norte (Greytown) is situated at the mouth of the northern arm of the San Juan River delta in the extreme southeast corner of the Republic. The climate is unhealthful and the place is losing its position as a port because of the filling up of the harbor.

# NICARAGUA CANAL

REFERENCES to the earliest and latest phases of the history of this proposed interoceanic waterway will be found in the article NICARAGUA. Advocacy of this route as Panama's chief rival was most interesting during the 19th century and at the beginning of the 20th. In 1838 the Mayor of New York City, Aaron Clark, together with other influential citizens, memorialized Congress in the interest of a canal planned to connect the Atlantic and Pacific oceans, recommending that negotiations should be opened between New Granada (now Colombia), Central America and the great powers of Europe, for the purpose of entering into a general agreement for the promotion of the project. President Van Buren sent John L. Stephens as an agent to the Isthmus, and Mr. Stephens, recommending the Nicaragua route as the most desirable, estimated the cost of a canal in that locality at $25,000,000 but did not think the time favorable for undertaking such a work, because of the unsettled and revolutionary conditions then prevailing. In 1826 John Bailey was sent out by an English company to survey the Nicaragua route, and negotiated for a concession. Though he failed in his main purpose, he remained in Central America, and, in 1837, determined what he considered the best route for a canal — extending from San Juan (now Greytown) to Lake Nicaragua, across the lake to Lajas, and thence to San Juan del Sur on the Pacific. The reasons for the general interest in the question are well stated by General Goethals in his introduction to the valuable work, *The Panama Canal*, etc. (see *Bibliography*), in substance that the settlement of the northwestern boundary question, by which the United States came into possession of Oregon, and the termination of the Mexican war, by which California was added to the Union, followed by the discovery of gold in the territory recently acquired, brought prom-

nently to the attention of the American people the matter of transportation via the Isthmus. Communication overland was so difficult and dangerous that the main current of immigration was via Cape Horn. To make the newly acquired territory more accessible, lines of steamers were inaugurated from New York to the Isthmus, and from the Isthmus to California and Oregon. But the passage across the Isthmus was attended with serious personal inconveniences and suffering, as well as exorbitant charges.

The importance of making a connection across the Isthmus aroused the government to action, and arrangements were made for treaties with both New Granada (Colombia) and Nicaragua. The right of transit across the Isthmus of Panama was secured and ratifications were exchanged 10 June 1848; subsequently Nicaragua conferred on the United States, or a company of its citizens, the exclusive right to construct canals, railways, or any kind of roads, so as to open a passage and communication by land or water, or both, between the Caribbean Sea and the Pacific Ocean. In return the United States was to aid and protect Nicaragua in all defensive wars to the extent of protecting and preserving its territorial limits. The Nicaragua treaty, however, was not approved at Washington, and the American chargé, who had exceeded his authority in negotiating it, was removed.

### Contract with Citizens of the United States

His successor arranged a treaty upon the subject, and a contract with the American, Atlantic, and Pacific Ship Canal Company, composed of Cornelius Vanderbilt, Joseph L. White, Nathaniel Wolfe, and their associates. While the treaty was not ratified, the contract was protected, the company securing for that purpose articles of incorporation from Nicaragua. By the terms of the contract the company had the exclusive right of cutting a ship canal from Greytown to any point on the Pacific, by way of the San Juan River, Lake Nicaragua, the Tipitapa River or any other waters within Nicaragua's jurisdiction. It also gave exclusive right for the construction of rail or carriage roads, or both. The company determined that there should be a careful survey made from ocean to ocean, and that a line of location should be determined. Colonel Orville W. Childs, of Philadelphia, was appointed chief engineer, and took charge of the work in 1850, completing it in 1852. He reached the conclusion that a ship canal by the Nicaragua route was practicable only by following up the valley of the San Juan River to Lake Nicaragua, and from the lake either southwesterly along a line through some valley extending across the dividing ridge, or northwesterly up the Tipitapa

River to Lake Managua, thence through the valley extending through the head of that lake to some suitable seaport on the Pacific. As between these two routes, an examination led him to believe that the one leading from the lake at the mouth of the Lajas River, up the eastern slope of the divide, and down the valley of the Rio Grande on the western slope to the Pacific, presented more favorable conditions than any other between Lake Nicaragua and the Pacific, and was superior to any route by way of Lake Managua. His project has been the basis of all subsequent ones. At the request of the company the President of the United States submitted Colonel Child's report of the survey and location to topographical engineers of the United States, for their inspection and opinion, and they reported in March 1852 that the plan proposed was practicable, but recommended certain changes and modifications. Nothing further was done by the American, Atlantic, and Pacific Ship-Canal Company toward the construction of a maritime canal, and its contract was forfeited.

## The Treaty of 1884

In December 1884 a treaty was negotiated between the United States and Nicaragua for the construction of a canal by the former, to be owned by the two contracting parties. While the treaty was pending in the Senate in 1885 it was withdrawn by the President for the reason that the perpetual alliance with Nicaragua which the treaty proposed, as well as the protection of the integrity of the territory of that state, was contrary to the policy of the United States. In 1887 Nicaragua granted a concession to A. G. Menocal and others for the construction of a ship canal from Greytown to Brito, and, as the canal would affect the territory of Costa Rica also, a similar concession was secured from this republic in 1888. The Maritime Canal Company of Nicaragua was organized and incorporated by the Congress in 1889, for the construction of the canal. Actual construction was begun in October of 1889 and was continued for over three years, but comparatively little was accomplished. Work was suspended during 1893. Several attempts were made to secure government aid, but without avail. A bill for this purpose, after its passage by the Senate in 1895, was pending in the House of Representatives (where it subsequently failed) when an amendment was made to the Sundry Civil Bill which provided for a board of three officers, one from the Army, one from the Navy, and one from civil life, to make a personal investigation and to examine the " plans, profiles, sections, prisms and specifi-

tions " for the various parts of Menocal's plans for the Nicaragua Canal, for the purpose of ascertaining " the feasibility, permanence, and cost of construction and completion of the canal." The board appointed consisted of Lieut.-Col. William Ludlow, Corps of Engineers, Army of the United States, M. T. Endicott, civil engineer, Navy of the United States, and Alfred Noble, civil engineer. The board found it impracticable, within the time fixed by law and with the limited means appropriated for its work, to make a full and thorough examination of the route and obtain the necessary data for a final project, and recommended that further explorations should be undertaken and observations made, to collect information and data, so as to determine the location and cost of the work. The board submitted, however, a tentative estimate of the cost.

### Decision in Favor of the Nicaragua Route

Carrying out the recommendations of the board organized under the Sundry Civil Act of 1895, Congress appropriated by the Act of 4 June 1897 funds to " continue the surveys and examinations authorized by the Act approved 2 March 1895 into the proper route, feasibility, and cost of construction of the Nicaragua Canal, with a view to making complete plans for the entire work of construction of such canal as therein provided." The President appointed Admiral John G. Walker, Capt. Oberlin N. Carter (replaced 18 October by Col. Peter C. Hains), and Professor Lewis M. Haupt to constitute the commission required by the law. This board submitted its report in May 1899, with the necessary detailed data and estimates for the construction of the Nicaragua Canal. The Act of 3 March 1889 authorized the President to investigate particularly the Nicaragua and Panama routes with a view to deciding which was the more practical and feasible route for a canal connecting the Atlantic and Pacific Oceans, together with the approximate and probable cost of construction of a canal by each of the two or more routes. In compliance with this Act the President appointed Admiral J. G. Walker, Samuel Pasco, Alfred Noble, George S. Morison, Col. Peter C. Hains, Professor William H. Burr, Lieut.-Col. O. H. Ernst, Professor Lewis M. Haupt and Emory R. Johnson as a commission to carry out the wishes of Congress as expressed by the Act. This board submitted its report on 16 Nov. 1901. With regard to the choice of routes, the board reported: " There are certain physical advantages, such as a shorter canal line, a more complete knowledge of the country through which it passes, a lower cost of maintenance and operation,

in favor of the Panama route, but the price fixed by the Panama Canal Company for a sale of its property and franchises is so unreasonable that its acceptance cannot be recommended by this commission. After considering all the facts developed by the investigations made by the commission, and having in view the terms offered by the New Panama Canal Company, this commission of the opinion that, the most practicable and feasible route for an Isthmus canal to be under the control, management and ownership of the United States, is that known as the Nicaragua route."

### Decision Favoring Panama Route

The price fixed by the New Panama Canal Company was $109,141,500; but the board was of the opinion that the value of the French property referred to was only $40,000,000; and if the figure had been acceptable the report leaves no doubt that the recommendation of the board would have been different. Because of lack of funds the New Panama Canal Company could not carry the work to completion, and their only hope for any return for the investment was from the United States. In these circumstances the company on 4 Jan. 1902 declared itself ready to transfer to the United States its properties and concessions on the payment of $40,000,000. This put the matter in a new light, and the Isthmian Canal Commission was called together, changed its previous recommendation, and on 18 Jan. 1902 reported that in view of "conditions that now exist and all the facts and circumstances upon which its present judgment must be based, the commission is of the opinion that the most practicable and feasible route for an Isthmian canal, to be under the control and management and ownership of the United States, is that known as the Panama route." (For the convention between the United States and Nicaragua, proclaimed 24 June 1916, see NICARAGUA, REPUBLIC OF).

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# ISTHMUS OF PANAMA

By Marrion Wilcox

THE Isthmus of Panama is the tongue of land connecting the central and southern American continents and varying in width from 31 to a little more than 110 miles, the former measurement being taken from the Gulf of San Blas and the latter including Azuero Peninsula. The isthmus runs east and west with a double curve in either coast line, so that the western hollow made by Mosquito Bay on the north side and the eastern indentation of the Gulf of Panama on the south side, each with a corresponding bulge opposite, give the entire isthmus the shape of a recumbent S or of the sign of variation. In this more extended use of the term the words Isthmus of Panama are applied to the entire republic of Panama (q.v.), that is, what was formerly the isthmian segment of Colombia (q.v.). The term is also used to designate the eastern and narrower part, corresponding roughly with that Miocene causeway between the northern and the Neotropical regions (see the article on Latin America — section *Fauna and Flora*, p. 11) to which the name of Darien was originally applied. The isthmus was reached by Columbus in 1502, and was crossed in 1513 by Balboa, who "from a peak in Darien" discovered the Pacific. The cities of Panama and Nata were colonized before 1520. The isthmus was also the scene of the Darien scheme of colonization fathered by William Paterson. In spite of its having been known so long to European explorers, large parts of the Isthmus remained as a virgin field for ethnologists, geographers and naturalists long after the first Canal Commission from the United States undertook the great constructive work. The geologist of the Isthmian Canal Commission contributed to the *Scientific American*, 18 Oct. 1913, pp. 303-5, a

study of the geological conditions on the isthmus, giving prominence to the fact that there are, within the Republic of Panama, high mountain groups, but few, if any mountain ranges, properly so called. "The older geographies," he writes, "informed us that the North and South American Cordilleras were practically one continuous chain from Alaska to Cape Horn. This is quite incorrect, for the mountains of Panama . . . are units quite distinct geographically from the greater northern and southern continental ranges. Furthermore, they have had a different origin, for they are not due to folding by lateral pressure, but originated from intrusions of volcanic rocks, as necks, cores, masses and irregular dikes." These intrusive rocks are of five types: basalts, diorites, andesites, granodiorites, and rhyolites. They were extruded in a molten condition through volcanic agglomerates, breccias and tuffs; through sandstones, limestones, argillites and shale beds, mostly of Oligocene age. A fact that any serious student will notice is that the bedded rocks cut by these bodies of igneous or volcanic rock are not well consolidated, except in the vicinity of the higher mountains where they have undergone such induration as the heat of the great masses of ejected lava occasioned. The basalt, the esite and rhyolite extrusions are principally post-Oligocene, "and seem to be largely Miocene in age." The diorite is, at least in part, pre-Oligocene, probably of Eocene time. The fact that the earthquakes are coextensive with these mountain groups is evidence that the latter have been pushed up beyond the supporting power of their foundations and are even now settling back to adjustment. This consideration has an obvious bearing upon the problem of the "slides" in Culebra Cut. (See Panama Canal). Both Gold Hill and Contractors' Hill are examples of such settled-down masses. Within the Canal Zone there are only two peaks that attain approximately 1,000 feet in altitude; and no summits within 30 miles of the Canal Zone are higher than 2,000 feet. In fact, this marked depression is so extensive that no mountains above 4,000 feet in height are found within 100 miles of the canal's terminal ports. In the western regions, however, and in those districts long the subjects of contention on account of the conflicting claims of the Republic of Panama (as inheritor of Colombia's contentions) and Costa Rica, we find high mountains, attaining 11,000 feet in two instances, and unquestioned evidences of much more recent plutonic activity. (For Climate, fauna and flora, hydrography, ethnology, etc., see Latin America, p. 7, and Panama, Republic of, p. 587. See also Panama Canal, p. 601).

# PANAMA

By Marrion Wilcox

## NATURAL BOUNDARIES, GEOGRAPHY, ETC.

THE Republic of Panama is a country of Latin America, bounded on the north by the Caribbean Sea, on the east by Colombia, on the south by the Pacific Ocean, and on the west by Costa Rica. We find in the interior a great number of hills and mountains, a few being extinct volcanoes. These have no geological connection either with the North American Cordilleras or with the Andes. The only systematic ranges are a bit of the Costa Rica central divide, which runs over into western Panama, and on the Atlantic coast further east the Cordillera de San Blas. The detached and irregular hills are often separated by streams, greatly subdivided, whose banks (like the hillsides and, indeed, the greater part of the country) are covered with dense tropical vegetation. The exceptions to this rule are a few treeless uplands along the Pacific side between the Costa Rica border and the Gulf of Panama. The rivers and streams are the ill-named Rio Grande and the Chagres, which have been factors in the Canal Zone problems; the Tuyra and the Bayano, in the eastern and central regions; and in the western region, where the water-parting is more distinctly marked, many rivulets that flow from the central range northward to the Caribbean or southward to the Pacific. The area of the republic was officially given in 1916 as 32,380 square miles. Of the Canal Zone (see Panama Canal, p. 601) the area is 474 square miles. Political aspects of the acquisition of this strip, the precise terms of the grant, etc., are examined and stated in the section History.

## Climate

The chief hydrographer of the Panama Canal, Mr. F. D. Willson, writes that on the Isthmus average temperatures decrease approximately one degree Fahrenheit with every 330 feet increase in elevation. The influence of the Caribbean Sea, lying to the windward, is shown in the climate of the Atlantic coast, which is nearly of the moist and equable oceanic type; but climatic conditions on the Pacific slope and throughout the interior exhibit many of the characteristics of the continental type, because the prevailing winds over these sections blow from off the Isthmian land areas. A large percentage of the rainfall comes in the form of afternoon tropical showers, the period from two o'clock P.M. to three P.M. being the hour of heaviest rainfall as a general rule. Almost the only gen-



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eral storms that visit the section of the Isthmus traversed by the canal are the so-called "northers" during the period from October or November to April, inclusive. Characterized by steady winds of a velocity of 30 or more miles per hour, these "northers" may or may not be accompanied by heavy rainfall. The winds alone are usually of insufficient force to hinder navigation at the Atlantic entrance of the canal; the high waves accompanying these storms, however, were injurious to shipping interests before the breakwaters that now protect the inner bay were constructed. The average annual sea temperature is about 82° F. on the Caribbean coast and 80° F. on the Pacific side. The absolute range on the former side is only about 12° F., while on the latter (at Balboa)

the absolute range is 29° F. Hail has fallen in the Canal Zone or vicinity three times since observations were begun in 1906. Water spouts have been seen at both canal entrances. Generally speaking, the climate is unhealthful except in those places where modern sanitation methods have eliminated the causes of tropical diseases.

### Seismology

Before the occupation of the Canal Zone by the Commission from the United States, there had been 28 recorded earthquakes, but only one or two that can be classed as destructive — possibly the shock which occurred in 1621 and certainly that of 7 Sept. 1882. Since 1904, seismic disturbances were thought to be negligible except during the fiscal year 1913–14 and in 1915. During the former year 87 shocks were recorded at Ancón. Of these, 55 or 56 were of comparatively local origin, less than 200 miles distant; 31 or 32 were tremors from shocks of remote origin. Nearly all of the local shocks appeared to originate about 115 miles southwest of Ancón Hill in Los Santos Province. Ten of these were felt generally over the Isthmus, and the shock of 28 May 1914 damaged slightly the new Administration Building at Balboa. In 1915 sharp shocks were felt on 24, 25 and 26 January and on 28 June. These did not originate in the Zone, and caused little damage there or elsewhere on the Isthmus.

### Tides

On the Pacific side the average tidal range for consecutive tides is about 12.5 feet, the maximum spring range occasionally exceeding 20 feet; but at the northern entrance to the canal the average tidal range is only about 0.9 feet, and the extreme range approximately two feet. Within and beyond this tidal area we find a coral formation of a comparatively recent date, which fringes both the Pacific and Caribbean coasts and extends inland several miles near the rivers.

### The Chagres River

This famous river is formed by the confluence of two streams at Dos Bocas, the main stream originating among the mountains of the San Blas cordillera, where peaks 2,000 to 4,000 feet in altitude are found. Mr. Willson says that although nearly the entire country from headwaters to the neighborhood of the canal is clothed with vegetation, much of which is dense, the slopes are so precipitous and rock lies so near the surface that severe tropical rain storms cover its banks with small torrents and cascades, from

time to time causing the river to rise suddenly and to discharge almost incredible volumes of water. Its drainage area before it reaches the canal is 1,320 square miles. In the upper reaches there are two canyons, each about a mile in length, and a number of rapids. By damming its waters at Gatun, the engineers of the Commission have formed the dominating feature of the Panama Canal — Gatun Lake, which has an area of 164 square miles at an elevation of about 87 feet above sea-level and contains 192.24 billion cubic feet of water.

### Fortifications

Modern defensive works are maintained only in the neighborhood of the canal. General Goethals (see *Bibliography*) writes: "In 1910 Congress voted in favor of fortifying the canal and, subsequently, of having a garrison permanently located within the Zone. These defenses consist of seacoast fortifications for the protection of the entrances against naval attack and land defenses around the locks, the most vulnerable features of the canal, against any force that might be landed from an attacking fleet for raiding purposes."

### Population

The number of inhabitants was given as 450,000 in 1916. (Pan-American Union, *Latin America*, Washington 1916). The estimates for 1911 and 1912 were, respectively, 337,000 and 341,000, exclusive of the Canal Zone. In the Republic as a whole the mestizos are most numerous (about 190,000 to 200,000); whites about one-fourth as many.

## HISTORY

Columbus landed on the Isthmus in 1502. Then came further exploration and in its train colonization, still in the first quarter of the 16th century. In the more flourishing days of Spanish rule in that century and the next the country in general and the city of Panama in particular enjoyed the advantages coming from the shipment of South American silver and gold. But this prosperity had so dropped at the close of the 18th century that Panama was largely isolated from Colombia and took comparatively little part in the various revolts that culminated in Colombian independence in 1819. Two years after that date, however, the people of Panama proclaimed their independence and became part of the old Republic of Colombia. This was a strongly centralized government held together by little but Bolivar's personal influence

and power. It was shattered in 1831, the year after his death, and three new republics were formed, namely, Venezuela, Ecuador, and New Granada. The last named included the Isthmus. Strangely enough the form of government of the new republic was practically identical with that which had brought it to revolt against Colombia, and equally ill-adapted to its heterogenous elements. Moreover there was no simple and speedy means of intercommunication such as might have welded the country into some national unity. In the existence of this type of government is the philosophic key to the history of both the old republic of Colombia down to 1831, and after that date of New Granada, the United States of Colombia, and the Republic of Colombia (the present name of the country). It was in the very nature of things that as New Granada had broken from Colombia, so Panama, New Granada's remotest part, must break, or attempt to break from New Granada. A state's rights or Federalist party did rapidly rise throughout New Granada. In 1840 revolutions broke out in most of the provinces. An independent "State of the Isthmus," containing the provinces of Panama and Veragua, was proclaimed in 1841, but the Centralists were successful, the revolution was suppressed, and the old régime was restored. The sentiment against this method of government steadily increased until in 1855 by an act of the Congress of New Granada at Bogotá the autonomous state of Panama was erected out of the Isthmian provinces. But the sincerity of this act may well be questioned and its aim was probably political and the purpose to crush the Federalist party for good and all. But the attempt of the national government to revoke its act, and, it seems, to provoke a revolution, and then in crushing that revolution to put a stop to all Federal agitation, overreached itself. The revolution in behalf of the new constitution was completely successful. For a score of years and more Panama, like the other states in the Colombian Union, enjoyed (more or less interruptedly) its individual rights. A Centralist uprising in 1885, however, effected a return to old conditions. The former state of Panama was again ruled from Bogotá, and became a department called Panama. This department was divided into four provinces, Chiriqui, Veraguas, Azuero, and Panama; the last named province occupied the eastern half, approximately, of the department of the same name, with which it is very easily confused.

During this revolution in 1885 the United States landed marines to protect the transit of the Isthmus between the cities of Colón and Panama, a circumstance of material assistance to the Centralist insurgents, but an act undertaken simply for the sake of

inter-oceanic and trans-Isthmian commerce. That it could have been for any reason other than this is impossible, since the right and duty of the United States to preserve neutrality in the Isthmian strip was due to a treaty made in 1846 with the government of New Granada, a government not in existence in 1885. In short the obligation was one to a territory and not to any power; and if to any power simply to that in control of the Isthmus, no matter what its relation to the original treaty-making power.

After 1885 the relations of Panama with Colombia were no closer nor more familiar than before. Several revolts took place, and in July 1900 under the lead of Porras, later a leading candidate for the vice-presidency of the republic, a desperate but unsuccessful attempt was made by a Liberal army to get control of the city of Panama. In 1903 a more successful plot was planned, growing out of the discontent of the people of Panama with the attitude of Colombia toward the Panama Canal Treaty with the United States. Whether through fear that the United States would in time gain sovereignty over the canal — there was an old saying that the canal when built would become the southern boundary of the United States — or a hope that the bid for the canal might be largely increased, the Colombian Congress refused to ratify this treaty and adjourned 31 Oct. 1903. By the terms of the Spooner Bill this made the Panama Canal apparently an impossibility and the Nicaragua Canal a certainty, for the President had been bidden to treat for the Panama Canal, and if such negotiations failed to carry through the project of the Nicaragua Canal. In short, the people of Panama would have been deprived of the fulfilment of their hopes of renewed commercial importance by this inexplicable action of the Colombian Congress, had not the revolution planned as early as the summer of 1903 offered a solution. How the desire for autonomy, the desire for a canal, and the desire for the money to be paid for the canal, respectively, bulked in the minds of the revolutionary plotters it is difficult to say. The foregoing sketch of Panama's political history would show at least that a revolution for purely political reasons was a possibility. The mixture of motives amounts to little more than a coincidence of several impulses, each of which alone would have been sufficient. On 3 Nov. 1903 — that is three days after the adjournment of the Colombian Congress — the municipal council of the city of Panama proclaimed the independent Republic of Panama. There was no bloodshed. An army of 400 Colombians (mostly boys between 12 and 14) arrived 4 November in Colón, whence its general with his

staff went to Panama; and upon his refusal to acknowledge the new republic, of which he knew nothing until the evening of the 4th, was imprisoned for a few days, but on the 7th with his army was shipped back to Cartagena from Colón. In the meantime upon 6th November the United States recognized the new republic, being satisfied that there was not the slightest internal opposition to its establishment. France's recognition followed 10 November, and soon afterward like action was taken by Germany, England and Russia. The remarkable haste with which the provisional government was recognized by that of the United States is not without precedent; in a Senate debate 5 Jan. 1904, Senator Lodge pointed out that in 1848 the French republic was recognized after three days and that the Republic of Brazil had received formal recognition within two days after its formation. It is to be noticed also that Panama's government may justly be reckoned a "resumption" of previous independence. As to the action of our government in landing marines to protect the trans-isthmian railroad, its defense lies in an appeal to the treaty of 1846, to the precedent of 1885, when the Centralist cause was as much (and as unintentionally) aided as it was checked in 1903, and to the principle that it is the Isthmian commerce that we aim to protect by keeping the strip neutral rather than any government, and hence that an appeal from any established power in the Isthmus for protection of the railroad must be met by speedy and unhesitating action. The objections to this view of the case and the disagreement with the actions of the existing administration came from various sources: first, as in the case of the New Haven petition sent to the Senate 11 Jan. 1904, from unpartisan constitutional experts; and second from the opposition in Congress and the supporters of the Nicaragua route, who saw their last chance to win. The New Haven petitioners simply asked the Senate to make a careful and deliberate investigation. The opposition in Congress (and in the press) urged that the revolution in Panama was fostered if not actually started by the Republican administration and the landing of troops was for the purpose of preventing Colombia from subjugating the rebellious department; in fine, that both revolution and recognition grew out of pure self-interest in the proposed canal. Whatever the merits of these arguments, the inability of the Democratic caucus to bind its members to oppose the Canal Treaty, the instructions from the Mississippi Legislature to the Senators from that State, and 11 Jan. 1904 the practical confirmation of the nomination of W. I. Buchanan to be minister

to Panama by the tabling of Senator Morgan's motion to reconsider, seemed to show that the actual opposition was political and temporary.

The provisional government founded 3 November was in the hands of a junta consisting of J. A. Arango, Tomas Arias, and Federico Boyd. The last-named member of the junta arrived in the United States on 18 December and late the same day a Canal Treaty was signed by Secretary of State John Hay and the minister from Panama to the United States, Philippe Bunau-Varilla, who had been formally received at Washington eight days before. This treaty closely resembles the convention made with Colombia; the compensation is the same; but the canal strip is made wider and the powers granted to the United States are larger. The junta named above took control of the government, being assisted by the following provisional cabinet: Minister of Government, Eusebio Morales; Minister of Finance, Dr. Manuel Amador Guerrero (later elected president); Minister of Foreign Affairs, F. V. de la Esprilla; Minister of Justice, Carlos Mendoza; Minister of Public Instruction, N. Victoria; and Minister of War and Marine, M. de Obarrio, Jr. On 27 December a general election of delegates to a national convention took place. In most instances municipal authorities acted as electors, the scheme of manhood suffrage originally promulgated having proved impracticable. Four delegates were chosen from each province except Panama, which elected eight, making a total of 32. These delegates, meeting 15 Jan. 1904, were called to frame a constitution and to elect a president. The provisional government ratified the Canal Treaty 2 Dec. 1903, and five days afterward the treaty was submitted to the United States Senate for ratification by that body. On 16 Feb. 1904, Guerrero was elected president, with Arosemena, Obaldia, and Mendoza as *designados*, or vice-presidents.

Article 2 of the treaty between the United States and the Republic of Panama, which was ratified by the United States Senate 23 Feb. 1904, and went into effect 26 Feb. 1904, provided for the cession, in perpetuity, by Panama, of a strip of territory adjacent to the canal, as follows:

"The Republic of Panama grants to the United States in perpetuity the use, occupation, and control of the zone of land and land under water for the construction, maintenance, operation, sanitation, and protection of said canal of the width of ten miles, extending to the distance of five miles on each side of the centre line of the route of the canal to be constructed; the said zone beginning in the Caribbean Sea, three marine miles from mean low-water mark, and extending to and across the Isthmus of Panama into the Pacific Ocean to a distance of three

marine miles from mean low-water mark, with the proviso that the cities of Panama and Colon and the harbors adjacent to said cities, which are included within the boundaries of the zone above described, shall not be included within this grant. The Republic of Panama further grants to the United States in perpetuity the use, occupation, and control of any other lands and waters outside of the zone above described which may be necessary and convenient for the construction, maintenance, operation, sanitation, and protection of the said canal or of any auxiliary canals or other work necessary and convenient for the construction, maintenance, operation, sanitation, and protection of the said enterprise. The Republic of Panama further grants to the United States in perpetuity the use, occupation, and control of all islands within the limits of the zone above described, and in addition thereto the group of small islands in the Bay of Panama named Perico, Naos, Culebra, and Flamingo."

In compensation the United States paid $10,000,000 for the concessions and agreed to pay $250,000 annually beginning in the tenth year after the ratification of the treaty.

The uneasy conditions prevailing throughout the Central American countries during 1907 and the early part of 1908 were particularly manifest in Panama, especially as the time for the election of a new president drew near. This uneasiness caused some apprehension at Washington lest the Canal Zone might become affected in some way. Charges had been made by one of the political parties that frauds had been perpetrated in the previous elections and that the members of the opposition party had not been allowed to register. A request was therefore sent in May 1908 to the United States to appoint a commission to assure a fair election. In order to pacify all the political elements Secretary of War Taft was sent to Panama.

Ricardo Arias, Secretary of Foreign Relations, was the candidate of the Government party for the presidency and José Obaldia was the candidate of the Liberal party in opposition to the government. The latter, while popular with the people, was not so with the government, and apprehension was expressed lest the former should use the power of the government and police forces to hold a dummy election and declare himself elected.

Upon his arrival Taft decided to appoint American representatives to observe the elections which were to be held on 12 July, and made it plain to the political parties that if frauds were permitted that might lead to disorder, riot, or insurrection, the United States would preserve order according to the terms of the treaty. A commission of electoral inquiry was appointed by Panama to investigate and a list of the actual voters in each polling precinct was made. Thereupon Arias withdrew from the contest and Obaldia was elected almost without opposition.

## GOVERNMENT

By the provisions of the constitution adopted 13 Feb. 1904, the country has a centralized republican form of government. The executive authority is vested in a President elected for a term of four years by popular vote; the President is assisted by a cabinet of five members. The legislative branch of the government consists of a single body of deputies called the National Assembly and the members are elected for four years. The sessions of this Assembly are held at the city of Panamá once every two years, and extraordinary sessions may also be called by the President of the Republic. The judicial branch comprises a supreme court of five judges, appointed by the President for a term of four years; a superior court and several circuit courts (appointments to both made by the supreme court for four years); and municipal courts, whose judges are appointed by those of the circuit courts for one-year terms. For local government the republic is divided into eight provinces, each of which in turn is divided into municipal districts. The affairs of the provinces are administered by governors, appointed by the President of the Republic for one-year terms, and those of the municipal districts by mayors and municipal councils, the latter elected by direct vote for two years, the former (the mayors or "alcaldes") appointed for one year by the provincial governors.

## EDUCATION

The Department of Public Instruction has charge of all elementary, secondary, and special schools and establishments of learning, both public and private; of the Pedagogical Library and of the National Museum. The system of public education includes the kindergarten, for children five and six years of age, and primary schools for children of the ages seven to fourteen; these primary schools being organized in six grades, for which official courses of study are provided; and the instruction must be under official supervision even when given in private schools or at home. An obligatory course of only three years is established in rural schools. Among the special institutions above referred to are the school of Arts and Crafts, the National School of Music, the College of Commerce and Languages, the National Institute, and a recently established school for the instruction of native Indians

(Consult *Report of Commissioner of Education*, Washington 1915, and Pan American Union handbook *Panama*, Washington 1916). In 1917 the National Assembly authorized the Executive to found and maintain a Pan American University in Panama City. The university is to give preference to courses in Spanish and English literature, tropical medicine and law. The National Institute of Panama is to serve as a base for the new university. Altogether the government maintains 364 public schools throughout the provinces. There are about 375 teachers in these schools, and about 14,500 pupils (excluding 1,720 children enrolled in the schools of the Canal Zone). There are also about 12 private institutions and about 60 young men and women are being educated in the United States and elsewhere at the cost of the Panama Government.

## INDUSTRY AND COMMERCE

The cultivation of bananas on a large scale, and of cacao, sugar-cane, tobacco, rice, maize, etc., on a small scale, should be mentioned. Agriculture is practically undeveloped because of poor transportation facilities. The sugar industry is important in Los Santos and Veraguas, but could be greatly extended. The cocoanuts and pineapples of this region deserve their good report. Stock-raising is also an important branch (estimated number of cattle about 65,000; horses, 17,000; mules, 1,500; pigs, 28,000; and goats, 3,000). Mining is carried on in the Darien district and Veraguas Province; pearls are obtained at the Pearl Islands, Panama Bay, and coral and sponges are found near the coasts. Forest products (see Isthmus of Panama, p. 585) are both valuable and interesting. Manufactures are few and unimportant. Chocolate, mineral waters, ice and soap are made for local consumption. The government maintains a monopoly in the production of tobacco, cigars, cigarettes and salt, and lets these to individuals.

A law fixing the responsibility of employers for accidents to workmen was passed by the Congress of Panama on 6 Nov. 1916, and was promulgated in the *Gaceta Oficial* 10 days later. One of the features of the law is that if insurance companies are established in the country, employers may insure their employees for the amounts which would be due them in case of injury by accident while at work. The part of the law that provides for indemnity to victims of accident became effective 16 May 1917, while the remainder of the law went into effect on 16 Feb. 1917.

Chief exports are bananas, cocoanuts, cocobola wood, ivory

nuts, medlar juice, mother-of-pearl, hides, tortoise shell, rubber (from trees scattered in the forests), skins, ipecac, sarsaparilla, brown sugar, cacao and balata. Chief imports are rice, cigarettes and cigars, sugar, lard, coffee, kidney beans, eggs, candles, chocolate, Indian corn (maize), cheese, beer, food pastes, petroleum, gasoline, leather, butter, leaf-tobacco, etc. In the last normal year before the war (1913) imports from the United States were valued at $6,378,702.29; from Great Britain, $2,465,431.54; from Germany, $1,078,167.72; from France, $336,816.38; from China and Japan, $266,772.62; from Spanish America, $238,684.48; from Belgium, $208,539.98; from Italy, $168,881.59; from Spain, $162,574.09. The total foreign trade in that year was $16,780,027.59 (imports valued at $11,397,000.05 and exports $5,383,027.54). In 1914 the total imports were valued at $9,885,475 and the exports at $5,163,000. Of the total imports $6,396,275 came from the United States (exclusive of canal materials), $1,835,890 from Great Britain, $460,455 from Germany, $211,725 from France, $109,090 from Italy, and $300,835 from Belgium.

## BANKING AND FINANCE

The monetary system is based on the gold standard, its unit being the balboa, divided into 100 centesimos and representing 1.672 grammes of gold .900 fine, or 1.5046 grammes of pure gold, equivalent to $1 currency of the United States. In actual circulation are silver half balboas, locally called pesos, and fractional silver and nickel coins, together with currency of the United States on a par basis.

The revenues of the Republic declined 30 per cent after July 1914, the causes being (as stated in *Proceedings of the First Pan American Financial Conference*, Washington 1915) the diminution of imports due to the European War and the establishment (by the Government of the Canal Zone) of commissaries privileged to import merchandise without payment of duties. On 26 Oct. 1915 an extraordinary session of the National Assembly was held to consider pressing financial problems. The budget for 1915–16 was planned to balance at $5,124,400. A contract with New York financiers (1915) provided for the establishment of the Bank of Panama, one-fourth of the directors to be named by the Government of Panama. That bank, acting as fiscal agent and depository of the Republic of Panama, has power to issue legal tender notes up to the value of its capital.

## TRANSPORTATION

Steamships from the United States and Europe, from South America and the West Indies, enter the port of Colón on the north coast; on the south coast, Balboa, the Canal Zone's Pacific port, is visited regularly by steamers from both north and south. A railroad three miles long connects Balboa with Panama City, from which the main line of the Panama Railroad extends to Colón, 48 miles. Other railway systems are those of the Bocas del Toro region, 151 miles of narrow-gauge track designed chiefly for the service of the banana industry, and of the Pedregal, David and Boquete south-coast districts. The latter, when completed, will be about 52 miles in length. The great difficulty experienced in constructing and maintaining good roads on land through the tropical jungles directs attention to the possibility of improving and utilizing the rivers for transportation. At present, the Tuyra River is navigable for many miles by small craft, and the same may be said of a number of other streams; but it is also true that floods during the rainy season (see *Climate*) prohibit continuous use. The government is planning extensive improvements in various parts of the country to facilitate communication and internal development. Provision is made in the 1917 budget for the construction of new roads and the repair of old ones, for the building of bridges, wharves and warehouses, etc. An appropriation of $200,000 is made for roads from Penonome to Puerto Posada and from Aneton to Penonome, another from the latter place to Cahecera and to Rio Chico.

## POLICE, POST AND TELEGRAPH OFFICES

No army is maintained, its place being taken by a national police corps of 1,000 officers and men. There are 96 post-offices, handling about 2,500,000 pieces of mail-matter annually; 37 telegraph offices and two wireless-telegraph stations. The government in December 1916 appropriated $25,000 for the installation and maintenance of a telephone line in the Province of Colón, along the Atlantic coast, starting from the city of Colón and terminating in Santa Isabel. Construction was begun 1 Mar. 1917. A concession for the establishment and maintenance of electric plants and telephone systems throughout the republic was granted by the government of Panama in March 1917. It was provided

that the American concessionaire, when employing labor in accordance with the terms of that concession, must give preference to natives of Panama and must retain them in the proportion of at least 50 per cent. There are telegraph cables from Panama to North American and South American ports, and from Colón to the United States and Europe.

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# POLITICAL DIVISIONS AND CITIES

The Republic of Panama is divided into eight Provinces as follows:

| PROVINCES | Capitals | Population of Capitals |
|---|---|---|
| Bocas del Toro | Bocas del Toro | 5,000 |
| Coclé | Penonomé | 6,000 |
| Colón | Colón | 20,000 |
| Chiriquí | David | 14,000 |
| Herrera | Chitré | 6,000 |
| Los Santos | Los Santos (Las Tablas) | 8,000 |
| Panamá | Panamá | 25,000 |
| Veraguas | Santiago | 7,000 |

## Panama

The capital of the Republic is situated at the head of the Bay of Panama on the south shore of the isthmus. Its prosperity is due to the large amount of transit trade, but since the opening of the Canal its trade has declined, and much of it now goes through the terminal port of Balboa, which has better wharfage and other facilities.

## Colón

At the other terminus of the canal and railway stands Colón, which dates only from 1849. Everything in Colón is subordinated to the railway and the steamships; largely built of wood and sheet-iron, the town is periodically ravaged by extensive conflagrations; elevated only a few feet above sea-level, adequate sewerage is impossible; exposed to the trade winds, however, it is somewhat cooler than Panama. In a disastrous fire that swept over one-half of Colón on 30 April 1915 and rendered about 7,000 persons homeless, 11 lives were lost and property value at more than $2,000,000 was destroyed.

# PANAMA CANAL

By Marrion Wilcox

THE construction of this work, often referred to as the greatest material contribution to the world's commerce that has been made by any nation, was entrusted to commissions appointed by the President of the United States, under authority granted by the Congress. The first commission, appointed 3 March 1904, was constituted as follows: Rear-Adm. John G. Walker, U. S. Navy; Maj.-Gen. (retired) George W. Davis, U. S. Army; William Barclay Parsons, C. E.; William H. Burr, C. E.; Benjamin M. Harrod, C. E.; Carl E. Grunsky, C. E., and Frank J. Hecker. The second commission, nominated 4 March 1905, included Theodore P. Shonts, chairman, Charles E. Magoon, member and governor of the Canal Zone; John F. Wallace,



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A Ship Entering the Gatun Locks, Panama Canal, Showing the Electric Locomotives

member and chief engineer; Rear-Adm. Mordecai T. Endicott, U. S. Navy; Brig.-Gen. Peter C. Hains, U. S. Army (retired), and Col. Oswald H. Ernst, Corps of Engineers, U. S. Army. In 1907 the commission, as reorganized, had the following membership: Maj. George W. Goethals, Corps of Engineers, chairman and chief engineer; Col. W. C. Gorgas, Medical Department, U. S. Army; Maj. D. D. Gaillard, Corps of Engineers, U. S. Army; Maj. William L. Sibert, Corps of Engineers, U. S. Army; H. H. Rousseau, C. E., U. S. Navy; Sen. J. C. S. Blackburn, and Jackson Smith. Mr. Smith resigned in 1908, and Maj. H. F. Hodges was appointed to fill the vacancy. Senator Blackburn resigned in 1909, and Maurice H. Thatcher was appointed, 12 April 1910, in his place. Mr. Thatcher resigned in 1913, and Richard L. Metcalf served in his place until 1 April 1914,



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American Troops Guarding the Panama Canal, Showing Gatun Lake in the Distance

on which date — the canal being then essentially finished — the Isthmian Canal Commission was abolished, and attention given to the organization of an operating force.

## Sanitation

The first Panama Commission faced with wise deliberation and with courage the most difficult problems of sanitation, the solution of which was a condition precedent to the success of the work as a whole. General Gorgas's interesting book, *Sanitation in Panama* (see *Bibliography*) contains the best account of the admirable achievements in this department.

We have no means of telling (General Gorgas says, in effect) what was the sick rate with the French during the period of construction under the old French company, from 1881 to 1889, but we know that it was very large. We can safely calculate that

their constant sick rate was at least 333 per 1,000, or one-third their force. Now our force during the 10 years of construction averaged 39,000 men. If we had had a similar constant sick rate, we should have had 13,000 sick employees in our hospitals every day during the 10 years of construction. As it was, we had only 23 per 1,000 sick each day, a total of 900 for the whole force; that is, we had about 12,000 fewer men sick every day than had the French. This 12,000 men per day saved from sickness must be credited to the sanitary work done on the Isthmus.

Now let us consider the totals: We had an average of 900 men sick every day. For the year, this would give us 328,500 days of sickness, and for the 10 years, 3,285,000 days of sickness. If our rate had been 300 per 1,000, a very moderate figure compared with what it was under the French, we should have had 11,700 sick every day. For the year this would have given us 4,270,500 days of sickness, and for the 10 years 42,705,000, a saving of 39,420,000 days of sickness during this period. This saving must be credited to sanitation. Again, it cost us about $1 a day to care for a sick man on the Isthmus. The Commission cared for the sick free of charge. Therefore every day of sickness prevented lessened the expense that the Commission had to bear by $1. It follows that the Commission saved by the work of its sanitary department, if we consider the whole 10 years of construction, $39,420,000.

This represents only one phase of the saving due to sanitation. We must further consider that, if 300 men out of every 1,000 had been sick every day, the efficiency of the other 700 would have been correspondingly decreased. The other 700 would have been more or less debilitated and more or less depressed, and the amount of work turned out daily by each man would have been considerably less than it actually was for the employees enjoying good health and cheerful surroundings. The Commission would have had to pay considerably higher wages if the Isthmus had continued to bear the reputation it had always borne during the years preceding 1904; if, for instance, it had been known that three out of every 10 men going to work on the canal would be sick all the time, and that two out of every 10 would die each year, and that the whole 10 would be dead at the end of 5 years. Great loss was caused in the first years of the American assumption of the task by the demoralization among the working force, and almost stoppage of work, which took place during periods of exacerbation in the yellow fever period, or when prominent employees died of that disease. Great loss also occurred to the French on this account. Those most familiar with the conditions

state that a larger sum in dollars and cents was saved to the Commission in these ways than was saved by the direct decrease in the number of sick.

Considering all these factors an estimate was made that the sum of $80,000,000 was saved to the United States by the sanitary work done on the Isthmus during the 10 years of construction.

This is the purely commercial side of the question. Of much greater importance is the moral argument that can be adduced from the saving of life and suffering that results from such measures. During the 10 years of construction, the Commission lost by death only 17 out of every 1,000 of the employees. That is, from the whole force of 39,000 men, 663 died each year, and for the whole construction period the loss was 6,630 men. If the sanitary conditions had remained as they had been up to 1904, and the Commission had lost, as did the French, 200 employees out of each 1,000 on the work, that would have made the loss 7,800 men each year, and 78,000 during the whole construction period. It is evident, therefore, that 71,370 human lives were saved by the work of the Sanitary Department during the building of the canal.

The distinguished author refers to the sanitary work done in the Canal Zone as the first great demonstration that the white man can (or could, if such measures were generally adopted and applied) live as well in the tropics as in the temperate zones.

### The Canal in its Relation to International Commerce

An interesting and valuable study of the effect of the canal upon international trade competition, by Mr. Hutchinson (see *Bibliography*), contains the following reference to new opportunities created by the cutting of this canal: "A vast region bordering the Pacific, with huge population and enormous resources, crying out for economic development, is being brought into a new relationship with the older economic sections of the world best able to aid them in the fulfillment of their desires." The author says truly that many Pacific countries need European and American capital, need immigrant population, need the stimulus and direction of American or European enterprise. Their latent resources can not be developed fully in the absence of transportation facilities, railways, roads, harbor and street improvements, modern sanitation, public works of all sorts. Their industries need the introduction of modern equipment and methods. In brief, the Atlantic must supply the Pacific.

With the opening of the Panama Canal, a new facility of intercourse has been created. Goods, tourists, agents, mails, em-


CARIBBEAN SEA
Colon
Cristobal
Gatun Lake
Santa Rita Mt.
Las Cascadas
Miraflores Lake
Panama
Cerro de Cabra
BAY OF PANAMA
MAP OF THE
UNITED STATES
CANAL ZONE.
SHOWING THE COMPLETED
PANAMA CANAL
Scale of Miles

grants, can now reach many of the Pacific countries more quickly and conveniently. New growth of economic, commercial, social, and intellectual intercourse inevitably follows. The geographical position of the canal and the trend of development in the Pacific countries, as the writer points out, are such that the eastern portions of the United States are most favorably situated to play a part in this new growth. With reference to many Pacific regions the industrial eastern part of the United States has hitherto been at a disadvantage compared with Europe; but the handicap is either converted into an advantage by the canal, or greatly reduced. In those regions where the United States has already held some advantage, her position is greatly strengthened by the facilities offered by the new route.



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An Oil Tanker Passing Through the Gaillard ("Culebra") Cut, Panama Canal

## Some Interesting Facts about the Canal

The length of the canal from deep water to deep water is 50 miles; length from shore line to shore line, 40 miles; bottom width of channel, maximum, 1,000 feet; bottom width of channel, minimum, in Gaillard Cut (otherwise known as Culebra Cut), 300 feet; locks in pairs, 12; locks, usable length, 1,000 feet; locks, usable width, 110 feet; Gatun Lake, area, 164 square miles; Gatun Lake, channel depth, 45 to 85 feet; Gaillard Cut (Culebra Cut), channel depth, 45 feet; excavation by the French, 78,146,960 cubic yards; excavation by the French, useful to present canal, 29,908,000; estimated value to canal of excavation by the French, $25,389,240;

value of all French property there, $42,799,826; work begun by the Americans, 4 May 1904; excavation accomplished to 31 March 1915 (when only about 6,000,000 or 7,000,000 cubic yards remained to be excavated in canal proper), 232,440,945 cubic yards; concrete, total for canal, excluding terminals, 4,844,566 cubic yards; time of transit through completed canal, 10 to 12 hours; time of passage through locks, three hours; relocated Panama Railroad, length, 47.11 miles; Canal Zone, area, 436 square miles; canal and Panama Railroad forces actually at work in September 1913, about 37,000 (including about 5,000 Americans); payment to New Panama Canal Company (for the French property), $40,000,000; payment to the Republic of Panama, $10,000,000; estimated total cost of the canal, $375,000,000 (estimate given by General Goethals). The total cost of maintenance of the canal in the fiscal year 1916 was $6,999,750; tolls collected, $2,399,830; deficit, $4,599,920. In the preceding year, however, the tolls collected had exceeded costs of maintenance and operation by $220,256.

Panama Canal toll rates are the following: 1. On merchant vessels carrying passengers or cargo, $1.20 per net vessel ton (each 100 cubic feet) of actual earning capacity. 2. On vessels in ballast without passengers or cargo, 40 per cent less than for those of class 1. 3. On naval vessels, other than transports, colliers, hospital ships and supply ships, 50 cents per displacement ton. 4. On Army and Navy transports, colliers, hospital ships and supply ships, $1.20 per net ton, the vessels to be measured by the rules that are also employed in determining the net tonnage of merchant vessels. In time of war, as at other times, the canal may be used by all navies, according to treaties now in force which provide that it "shall be free and open to the vessels of commerce and war of all nations and shall never be blockaded, nor shall any right of war be exercised nor any act of hostility be committed within it."

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# SALVADOR

By Marrion Wilcox

## NATURAL BOUNDARIES, GEOGRAPHY, ETC.

SALVADOR (in official documents, *El Salvador*), the smallest and most densely populated of the Central American Republics, is bounded on the north and northeast by Honduras, on the southeast by the Gulf of Fonseca, on the south by the Pacific Ocean, and on the west by Guatemala. Its area is usually given as 7,225 to 7,325 square miles. The capital, San Salvador, is situated in the valley of Las Hamacas, on the Acelhuate River, 2,115 feet above sea level. Frequent disasters have taught the inhabitants the art of building earthquake-proof structures, with utilitarian rather than æsthetic motives; nevertheless the desire to secure good architectural effects reasserts itself (notably in the design of the National Palace); there are pleasant parks, and efforts are being made to complete the paving and the drainage system. (For political divisions see Political Divisions and Cities, p. 614.)

On the northern frontier rises the great mountain chain, the Sierra Madre or Cordillera, with peaks 7,000 to 8,000 feet high, in which primitive rocks predominate. About 15 miles from the coast, and running parallel with it is a range composed of plutonic material. Both systems include transverse ridges; the latter, the Coast Range, is intersected by the valleys of the Lempa and Grande rivers, and in or near it are situated the volcanoes San Vicente (7,683 feet), San Salvador, Santa Ana, San Miguel, Usulután, Apaneca, Izalco, Sociedad, and Chinameca (4,200 feet). Izalco is almost continuously active. Earthquakes are of frequent

occurrence: the capital has been wrecked by them 11 times since 1539, and is, in fact, "so subject to rockings and tremblings of the earth as to have acquired the name of the swinging hammock." The best natural harbor is that of La Unión, but it is not yet connected with the capital by rail. Acajutla, El Triunfo, La Concordia and La Libertad are the other ports. The largest lakes are Güijar (15 miles long by five wide), and Ilopango (nine miles by three); the chief rivers are the Lempa, the Paz and the San Miguel.

### Fauna and Flora

Among the native animals are the deer (*Cervus mexicanus*), armadillo, the jaguar and its little brother called ocelote on the coast, the pecari (*Sus americanus*), puma or American lion (*Felis concolor*), tapir, coyote, (*Canis aureus mexicanus*), etc. We mention, among the avifauna, the quetzal (*Trogon splendens*) and among reptiles the lagarto or caiman (*Crocodilus americanus*), the igüana and the boa constrictor. Dr. Guzmán (see *Bibliography*) calls attention to the "surprising vitality of the vegetable kingdom" and gives an interesting list of medicinal and dye-plants, together with those he classes as textile, oleaginous, and alimentary. The balsam, which the Indians call Hoitziloxitl and which is commonly known as "balsam of Peru" although it is produced only in this part of Central America; the indigo and maguey (*Agave americana*) may well head such a list.

### Mineral Resources, Soil and Climate

In a report devoted to mining operations, the consul-general of the United States writes from San Salvador: "For this republic a report can only be made on the production of gold and silver. While a number of promising copper fields are known, almost nothing has been done as yet in their development." In 1916 the authoritative statement was made that the output of gold and silver "amounts to about $1,500,000 annually." The soils on the slopes of mountains, table-lands, and in the valleys, formed by the detritus of the rocks and decomposed vegetable matter, are remarkably fertile. The year is divided into two seasons — the rainy months being those from May to October, the dry from November to April. Low coast lands are hot and unhealthful; a comparatively cool and agreeable climate is found in the highlands of the interior.

## HISTORY

In the summer of 1524 Pedro de Alvarado invaded the territory now called Salvador, coming from Mexico by way of Guatemala. The Indian capital, Cuscatlan, was captured the following year. On 4 April 1528 the city of San Salvador was founded, but it became necessary to abandon the site originally chosen in favor of the present one, and the transfer was made in 1539. As a subordinate part of the viceroyalty of Guatemala, Salvador continued to be a Spanish possession until 1821. Between 15 Sept. 1821, when Guatemala severed her connection with Spain, and 1824,



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The Plaza at Santa Ana, Salvador

when the Central American confederation was formed (see CENTRAL AMERICA), Salvador was compelled to assent to the annexation of her territory by Mexico. After the federation had dissolved (1839), Morazán tried to reunite the five small states of which it had been composed: in September 1842 he was made prisoner and shot at San José, Costa Rica. In 1885 the president of Guatemala, Gen. Justo Rufino Barrios, made an effort to restore the old relations between the states in the northwestern part of Central America. He also failed. On 13 Aug. 1886 Salvador promulgated the constitution which is now in force, displacing (it is

expressly stated in the final clause) the constitution of 1883. The most important single fact in the history of the little republic, as in that of Guatemala (q.v.), is the survival of the Indian element in undiminished force. Educated Salvadorians of the present day, when writing of the sufferings of the natives during the period of Spanish supremacy, unconsciously refer to the wrongs *sustained*, not *inflicted*, by their own ancestors. (It is desirable to add, in view of the diversity of usage, that the forms "Salvadorian" and "Ecuadorian" seem to be preferable to "Salvadoran" and "Ecuadoran.") In February 1913 President Araujo was assassinated. On the conclusion, in 1915, of the term for which Dr. Araujo had been elected, the distinguished Carlos Melendez took office for the term 1915–19. (For Salvador's interest in the canal treaty between the United States and Nicaragua (Treaty Series, No. 624, Washington 1916) see NICARAGUA and NICARAGUA CANAL). The most important subjects inviting the attention of the Melendez administration were educational and financial.

## GOVERNMENT

By the constitution, "legislative power is vested in a body called the National Assembly of Deputies," which meets in February, each year. Deputies, three from each department, are elected by the people. "Executive power is vested in a citizen who shall have the title of President of the Republic"; his term is four years; he cannot be re-elected until after the expiration of a second period of equal duration. The vice-president is also chosen for four years. Secretaries or ministers are appointed by the president, the portfolios being: Foreign Affairs, Public Instruction and Justice; Interior, Promotion and Charities; Finance, Public Credit and Agriculture; War and Marine. "Judicial power is vested in a Supreme Court of Justice, in Chambers of third and second instance," etc. Each of the 14 departments has its governor and deputy governor (Constitution of the Republic of El Salvador, 13 Aug. 1886, IX, Art. 3), whom the Executive appoints. Municipalities are governed by officers chosen by the people.

### Diplomatic and Consular Service

The United States has at the capital, San Salvador, a minister, a consul-general, a vice- and deputy-consul; Great Britain sends a minister and consul-general, a consul, and (at San Sal-

vador and La Unión) a vice-consul. El Salvador maintains a minister in Washington and has a consul-general at San Francisco and consuls in New York and New Orleans. In Great Britain El Salvador has a chargé d'affaires and consul-general, with consular agents at London, Liverpool, Glasgow, Southampton, Newport, Brighton and Birmingham.

## POPULATION, EDUCATION AND RELIGION

The census of 1 March 1901 showed, as the total number of inhabitants, 1,006,848, of whom 772,200 were mestizos, ladinos, and whites, and 234,648 Indians of pure blood. In 1917 population was given as about 1,700,000. Under the constitution (Art. 33), "teaching is free. Primary instruction is compulsory. The instruction given in the establishments supported by the state shall be laical and gratuitous." Besides the ordinary six-year elementary schools, rural schools have been established which give a brief course of instruction covering three years and provide not only for the children of the white people but also for native Indians. About 31,000 students and pupils are enrolled at the institutions of learning of various grades: the university, the normal and high schools, and the 700 primary schools. Article 12 of the constitution provides: "The free exercise of all religions is guaranteed, the only limit being that which considerations of morality and the public order prescribe."

## AGRICULTURE AND COMMERCE

Nearly all of the high valleys and table-lands of the republic are well adapted to agriculture, which is, therefore, the principal occupation of the inhabitants. Products are: coffee, indigo, rubber, cacao, balsam, tobacco, and a variety of grains, seeds, and fruits. In regard to coffee, the following statistics were prepared by the government: Area planted in coffee trees 50,000 hectares (hectare = 2.471 acres); virgin lands suitable for growing this crop, about 20,000 hectares; average bearing life of a coffee tree in Salvador, 30 years, and average production 350 grams. The shipments of coffee from the republic to foreign countries in 1915 and 1916 amounted to 80 per cent in the value of the total exports; in 1914 their aggregate was 34,666 tons — other exports being sugar (1,008 tons), indigo (134 tons), hides (178 tons), leaf

tobacco (33 tons), balsam (71 tons), and gold and silver ($1,481,772). The distribution of foreign trade among the four countries leading in trade with El Salvador in the year last mentioned was: Imports from United States valued at $2,027,732, from Great Britain $1,283,636, from Germany $484,796, from France $298,285; exports to United States valued at $2,662,168, to Great Britain $595,528, to Germany $2,614,350 and to France $1,559,639.

## BANKING AND FINANCE

The government's estimate of public revenues in the budget for 1915–16 was 10,800,000 pesos. Memorandum No. 2, by the delegation of El Salvador (*Proceedings of the First Pan American Financial Conference*, Washington 1915, pp. 629–34) gives the import revenues of 1913 as 7,263,042.98 silver dollars or pesos and of 1914 as only 6,076,770.61, showing a loss of 1,186,272.37 pesos in the first year of the war. The delegates add: "Before the world crisis, the monetary situation of Salvador was good [because the banks had been obliged, under governmental decree, to bring up their silver reserves at the time of the failure of the so-called Banco Nacional, which had no connection whatever with the government]. As a matter of fact, the capital of the three banks now doing business is 6,000,000 pesos. They may issue double their capital in notes, on condition of having on hand 40 per cent (Banco Occidental and Agrícola Comercial) or 50 per cent (Banco Salvadoreño). In our national budget there is always an item called 'public credit,' which has varied in the last few years from 3,000,000 to 4,000,000 silver dollars or pesos, for the amortization of the English loan and of the domestic loan and for the payment of the respective interests involved."

The message of the President of Salvador to the National Assembly in the *Diario Oficial* of 20 Feb. 1917 contained a statement of the revenues and expenditures of the country during the year 1916, which showed a more favorable condition of affairs than at any time since 1913. The revenues of Salvador for the last four years, in silver pesos (peso = 39.78, fluctuating), were as follows: 1913, 13,734,133 pesos; 1914, 12,423,752 pesos; 1915, 10,625,174 pesos; 1916, 12,779,084 pesos, showing that in the last year the downward tendency was checked, and an increase of 2,153,910 pesos over the previous year was reached.

The revenues and expenditures in the past year are shown, as follows:

| REVENUES | Pesos | EXPENDITURES | Pesos |
|---|---|---|---|
| Import duties | 5,856,185 | National assembly | 120,495 |
| Export duties | 1,963,317 | Executive | 84,309 |
| Tax on liquors | 2,633,966 | Government | 2,603,929 |
| Stamps and sealed paper | 501,680 | Promotion (fomento) | 1,292,715 |
| Miscellaneous revenues | 816,404 | Agriculture | 63,105 |
| Direct (income) taxes | 269,365 | Foreign relations | 205,932 |
| Interest | 718,165 | Justice | 823,988 |
| | | Public instruction | 1,174,386 |
| | | Philanthropy | 630,709 |
| | | Treasury | 833,056 |
| | | Public credit | 1,597,479 |
| | | War and marine | 3,037,098 |
| Total | 12,779,082 | Total | 12,468,086 |

The President called attention to the revenue of 137,794 pesos derived from the income tax established last year, to be increased by 74,670 pesos in late collections. Payments on the national debt during 1916 amounted to 2,168,572 pesos silver. The President pointed out the need of an established monetary system to prevent fluctuations in the foreign exchange, and recommended measures for new coinage. The monetary system is based on a silver standard; the peso, divided into 100 centavos, containing 25 grammes of silver .900 fine. The par value of the peso in currency of the United States is normally $0.3978, and the value of $1.00 is 2.51345 pesos.

## RAILWAYS, ROADS, SHIPPING, ETC.

A narrow-gauge railway line connects the port of Acajutla with the capital, San Salvador, 65 miles; a branch line extends 25 miles to Santa Ana; and other branch lines connect Santa Tecla with the capital and Santa Ana with Ateos. According to the Pan American Union's *Latin America*, page 42, "the system of the International Railways of Central America which is intended to connect the Salvadorian port of La Unión with ports in Guatemala is [1916] under construction." Great improvement has been made during the last 10 or 12 years in the methods of constructing highways and other roads which facilitate travel in the interior. Between 300 and 400 steamers enter the ports of the republic annually; regular steamship connection is maintained with Salina Cruz on the north, Corinto on the south and intermediate ports; through steamers between San Francisco and Panama call at the ports of Acajutla, La Libertad and La Unión when traffic warrants; and, in order to stimulate maritime commerce, subventions have

been given at different times to several important steamship companies. There are 117 post offices, 203 telegraph offices, with 2,521 miles of wire, and 176 telephone stations, with 2,074 miles of wire.

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# POLITICAL DIVISIONS AND CITIES

The Republic of Salvador is divided into 14 Departments, subdivided into districts, and these into towns and municipalities. The political subdivisions of the Republic, with their capitals and populations, are as follows:

| DEPARTMENTS | Capitals | Populations of Capitals (approximate) |
|---|---|---|
| San Salvador | San Salvador | 79,000 |
| La Libertad | Nueva San Salvador | 15,000 |
| Sonsonate | Sonsonate | 18,000 |
| Ahuachapán | Ahuachapán | 15,000 |
| Santa Ana | Santa Ana | 40,000 |
| Chalatenango | Chalatenango | 10,000 |
| Cuscatlán | Cojutepeque | 10,000 |
| Cabañas | Sensuntepeque | 12,000 |
| San Vicente | San Vicente | 14,000 |
| La Paz | Zacatecoluca | 7,000 |
| Usulután | Usulután | 7,000 |
| San Miguel | San Miguel | 25,000 |
| Morazán | Gotera | 5,000 |
| La Unión | La Unión | 5,000 |

## San Salvador

The capital of the Republic lies in a pleasant valley at an altitude of 2,192 feet, the cone of the volcano of Salvador rising distinctly above it. It is situated a little west of the centre of the country, 25 miles from the port of La Libertad on the Pacific coast, and with which it is connected by a railway. The city is well laid out, having many pleasant parks and suburban resorts. It is subject to earthquakes and this fact has modified the methods of house construction, all the houses being low and surrounded by open areas. The city is an important industrial centre, sugar refining and distilling leading; it is also a thriving commercial centre, doing a large trade in agricultural products, especially indigo and tobacco. It is the official residence of the United States minister to Salvador, and the seat of a United States consul-general. Other important cities are Santa Ana, San Miguel, and Sonsonate, San Vicente, and Nueva San Salvador.

# WEST INDIA ISLANDS OR WEST INDIES

By Maldon Wilcox

THE archipelago that includes the Great and Lesser Antilles and the Bahamas has a total land area of about 92,000 square miles — more than twice the size of Pennsylvania; the islands are, however, dispersed far and wide over a region continental in size, which extends from lat. 10° N. to 28° N. and from lon. 58° W. beyond 85° W. For the geologic relations of some of them to the mainland portions of the Antillean continent, see Central America, and for the characteristic features of the Great Antilles see the separate articles Cuba, etc. Only a limited number of the islands can be called properly "Latin American" (see Latin America — Definition); for convenience, however, we include in this volume articles on Jamaica and Porto Rico and a statistical note dealing with the islands formerly called Danish West Indies.

To pass from a western to an eastern point in this archipelago, one may be obliged to sail about 2,000 miles; and to pass from its northernmost to its southernmost island one must sail more than 1,500 miles. This wide dispersion is the fact which should be first noted. The next step is to realize fully the disjunctive political conditions, the results of the distribution of the islands among a number of competing nations. Let us now consider the political subdivisions. The British possessions are: The Bahamas, including 20 inhabited and many desert islands; Jamaica, with Turks and Caicos Islands, etc.; Windward Islands, including Grenada (the governor's residence), Saint Lucia, Saint Vincent and the Grenadines; Barbados, east of the Windward Islands; Trinidad and Tobago,



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The Harbor, San Juan, Porto Rico

near the South American coast; and the Leeward Islands, comprising Antigua (with Barbuda and Redonda), the Virgin Islands, Saint Kitts (Saint Christopher), Nevis, Anguilla, Dominica and Montserrat. The total area of the British West India islands is 12,631 square miles (4,431 in Jamaica and its dependent smaller islands). The exchange of ratifications of a treaty between Denmark and the United States on 17 Jan. 1917 had the effect of transferring to the latter the small islands of Saint Thomas, Saint Croix or Santa Cruz and Saint John, with a total area of 139 square miles and a total population of about 27,000. The amount paid by the United States for these Danish islands (the possession of which insures substantial control of the Virgin Passage through the Lesser Antilles) was $25,000,000. French possessions are: Guadeloupe and its dependencies, and Martinique, their total area being about 1,073 square miles and total population about 406,430, combined exports about $9,400,000 and imports about $8,300,000. A French and Dutch possession is the island of Saint Martin, 38 square miles in area, of which it has been well said: "The political complexion of Saint Martin is peculiar. Seventeen square miles of the northern section belong to France, and the rest to Holland, while the settlers, largely blacks, are principally British, who outnumber both the Dutch and French. About 3,000 of the inhabitants are in the French portion of the island, and 5,000 in the Dutch" (Hill's *Cuba and Porto Rico*, etc.); furthermore, "each maintains an administrative force as large as that of the State of Texas." The Dutch possessions — fragments on opposite sides of the Caribbean Sea — are the islands of Curaçao, Aruba, Bonaire or Buen Ayre, Saint Eustache, Saba and part of Saint Martin, as


FLORIDA
GULF OF MEXICO
HAVANA
Matanzas
Cienfuegos
Caibarien
Camaguey
Santiago de Cuba
GRAND CAYMAN
LITTLE CAYMAN
CAYMAN BRAC
JAMAICA
Kingston
Port Royal
PEDRO KEYS
HONDURAS
CENTRAL AMERICA
COSTA RICA
PACIFIC OCEAN
Panama
Gulf of Darien
GREAT BAHAMA BANK
CARIBBEAN SEA
A
B
C
D
1
2
3
4
5


HAITI
DOMINICAN REPUBLIC
Port au Prince
Aux Cayes
Santo Domingo
ATLANTIC OCEAN
CARIBBEAN SEA
HAITI
DOMINICAN REPUBLIC
SCALE OF MILES
PUERTO RICO
San Juan
Santo Domingo
BARBUDA
ANTIGUA
MONTSERRAT
DOMINICA
MARTINIQUE
ST LUCIA
ST VINCENT
BARBADOS
GRENADA
TOBAGO
TRINIDAD
CURAÇAO
ARUBA
TORTUGA
MARGARITA
LOS FRAILES
TESTIGOS
LOS ROQUES
BONAIRE
Caracas
San Carlos
VENEZUELA
LESSER ANTILLES
WINDWARD ISLANDS
LEEWARD ISLANDS
WEST INDIES
SCALE OF MILES
Greenwich

just stated. Venezuelan possessions are some of the islands, not appropriated by the English or Dutch, in the east-and-west line between Trinidad and the Gulf of Maracaibo. The list is completed by adding Cuba (with the Isle of Pines, etc.), a republic; Porto Rico, with the small neighboring islands, a possession of the United States; and the island of Santo Domingo, or Haiti, with the adjacent small islands. Mr. Hill's observation was that, "As we sail down the eastern islands, we find a dozen distinct colonial governments with no shadow of federation between them, or even co-operation of any kind." For example, Dominica, though lying between Guadeloupe and Martinique, and within sight of both, might be called commercially farther from them than from England, because cut off from the French neighbors by tariff and quarantine laws.

Edwards, in his history of the British West Indies, says that the "state of the population" in the islands which he described in 1791 was as follows: Whites, 65,305, and blacks, 455,684. The proportion of Caucasians has decreased owing to causes mentioned in the article JAMAICA. We find at present that the West Indian people, representing many original stocks which have developed variations of habits and customs in their New World environment, are practically divisible into three great races, the white, colored and black, modified by Spanish, English and French



A Typical West Indian View

civilizations; though the influence of the aboriginal stock should by no means be overlooked. The total number of inhabitants is approximately 6,000,000.

Differences in topography, soils, flora and climate, which are not less striking than diversities in population, have been summarized most intelligently by Mr. Hill, who writes: "These islands, far from being alike in natural features and economic possibilities, present great extremes. Some are low, flat rocks barely peeping above the sea; others gigantic peaks rising straight to the clouds, which perpetually envelop their summits; others are combinations of flat and rugose types. Some present every feature of relief configuration that can be found within a continental area — mountains, plains, valleys, lakes; some are made up entirely of glaring *white* coral sand or reef rock; others are entirely composed of *black* volcanic rock, and still others are a combination of many kinds of rock. Many are as arid as a western desert and void of running streams, and others have a most fertile soil, cut by a hundred picturesque streams of living water, and bathed in perpetual mist and daily rainfall. Some are bordered only with the fringing salt-water plants or covered with thorny coriaceous vegetation; others are a tangled mass of palms, ferns and thousands of delicate, moisture-loving plants which overwhelm the beholder with their luxuriance and color.

Volcanic eruptions are fortunately confined to Martinique and St. Vincent, although we see nearly everywhere in the Lesser Antilles evidences of the activity of mighty volcanic forces in times not vastly remote, geologically speaking — for the submerged Antillean continent is fairly bordered with these much later cones that form the eastern volcanic chain.

The climate is not only very agreeable in the winter months but also decidedly healthful, and in many parts of the Archipelago, especially toward the northern part, it deserves such commendation at all seasons. The rainy half-year begins, as a rule, in June and (with an interval of clearing weather about August or September) extends to the end of December. From January to June, then, almost ideal conditions of sunshine and cool breezes prevail in the southern and central islands as well as the northern. The northeast trade-winds are most constant in their ministrations to comfort and health during January, February, and March; in August, September, and October, on the other hand, there are occasional hurricanes — sometimes of great violence.

The history of the West Indies opens 12 Oct. 1492. The royal standard of Spain was then unfurled on an island known to the


FLORIDA
(U.S.)
GULF OF
MEXICO
Florida Straight
BAHAMAS
CUBA
GREAT
CARIBBEAN
JAMAICA
Windward Passage
Jamaica Channel
HONDURAS
NICARAGUA
COSTA RICA
PANAMA
CENTRAL
AMERICA
PACIFIC
OCEAN
COLOMBIA
84°
80°
76°
24°
20°
16°
12°


ECONOMIC MAP
OF
WEST INDIES
REFERENCE
Copper
Iron
Manganese
Salt
Silver
Hammond's Economic Map of West Indies
Copyright by C.S. Hammond & Co., N.Y.
68°
64°
60°
24
20
16
12
PORTO RICO
COFFEE
COTTON
SUGAR
TOBACCO
TRINIDAD
ASPHALT
Caracas
VENEZUELA
CARIBBEAN SEA
LESSER ANTILLES
LEEWARD ISLANDS
WINDWARD ISLANDS
Greenwich

natives as Guanahani, but named by Columbus, very gratefully, San Salvador. Sir Henry Blake and others have succeeded in identifying the scene of this first landfall as Watling's, the only West Indian island which in every "minute particular" answers the description (by the discoverer himself) of San Salvador or Guanahani. Greatest periods and events in West Indian history are these and such as these: The period of Elizabethan adventurous seamen whose achievements in these waters helped to immortalize the names of Francis Drake and Walter Raleigh and John Hawkins; the period of the buccaneers and of Henry Morgan; that most important, decisive triumph for British naval and colonial enterprise, Rodney's brilliant success in the engagement with the French fleet under de Grasse in 1782; the period or episode, of Nelson, "who chose his bride in Nevis," writes Aspinall, "and, in the *Victory*, the very ship that now lies peacefully in Portsmouth harbor, pursued Villeneuve to the West Indies and back, a fitting prelude to the battle of Trafalgar"; the period of the manumission of the slaves, which was followed, in the British West Indies, by long years of financial distress bravely met (about 1834–38 to the end of the century); and finally the period characterized by that radical improvement in the conditions of agricultural industries and foreign trade which we observe with satisfaction to-day.

The author of "Caribbean Interests of the United States" (see *Bibliography*) says: "With European colonies in the West Indies, the development of our trade relations is hampered by a number of causes. . . . Lack of transportation lines hinders exchange with some of the colonies. The subsidized steamship line between the British West Indian ports and Canada drains off some of their trade in that direction. The preferential tariff in force since 1913 affects our trade adversely. The policy of France, also, is to shape her tariffs in the West Indies to shut out the sending of colonial goods to foreign countries and to insure the home market a monopoly of imports where possible. Banking houses, especially when they have government connections, may be used to make the trade run on national lines. The banks in the French West Indies, it is reported, charge three per cent in addition to the regular rate of exchange on all payments made through New York. In some of the colonies branches of commercial houses in the home country are established. They buy only for their principals. Furthermore there is a French reciprocity treaty with Haiti which operates to their advantage. Beside these efforts on the part of other governments or their nationals to promote their foreign

commerce, our foreign trade is, of course, affected by our tariff." In causes such as these must be sought the explanation of the circumstance that the commerce of the United States expands less readily in the European dependencies than in the Latin American republics of the West Indies. The increase noted in exports from the United States to the British West Indies during the period 1902–14 was 36 per cent; to the Dutch West Indies 43 per cent; to the French West Indies 23 per cent. The increases in the imports into the United States during the same period were: From the British West Indies 27 per cent; from the Dutch West Indies 147 per cent; from the French West Indies 175 per cent. A fact not to be overlooked in this connection is that the British West Indies are as a reward of perseverance, with courage and enterprise, in the face of adverse circumstances, recovering from the long period of depression to which we have referred. Sir Charles Lucas, head of the West Indian Department of the British Colonial Office, has said that while the 19th century had witnessed their distress the 20th would be the century of their regeneration; and Mr. Asquith has given high authority to the statement that they have grown to be independent of financial assistance from Imperial funds. The financial situation, the natural resources, foreign commerce, etc., of the Greater Antilles are subjects of special studies in the articles Cuba, Dominican Republic, Haiti, Jamaica, and Porto Rico.

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# CUBA

By Marrion Wilcox

## SITUATION AND PHYSICAL FEATURES

CUBA, an island in the West Indies, is separated from the United States by the Strait of Florida, and from Mexico by the Yucatan Channel, and commands the only entrances into the Gulf of Mexico. Extending east and west from the 74th to the 85th meridian, it constitutes the most important part of the northern barrier of the Caribbean Sea, and guards the Windward Passage, the natural route for commerce between the Atlantic Ocean and the "American Mediterranean," which is equivalent to saying, if we take the larger view, that it guards the route of commerce between the Atlantic and Pacific Oceans, via the Isthmus of Panama. Its eastern point, Cape Maisi, lies directly south of New York city; its western point, Cape St. Antonio, nearly south of Cincinnati. But the total length of the island, 730 miles, is somewhat greater than that statement would indicate, for Cuba curves "like a bird's tongue," as the Spaniards used to say, from lat. 19° 40′ N. in the province of Oriente up to lat. 23° 13′ N., the most northerly provinces being those of Matanzas and Havana. In its upward curve the coast-line attains a point that is only 96½ miles distant from Key West; thence it falls away again until but 130 miles separate it from the mainland of Mexico. Its width decreases gradually from 100 miles in the east to less than 25 near the line between the two western provinces, Pinar del Rio and Havana. Its total area, including the Isle of Pines and the *cayos* or keys (more than 1,000 islets that form an irregular border along both the northern and southern

coasts) is estimated at 44,164 square miles. Thus it is larger than Virginia; smaller than Pennsylvania. Nature has provided unusual facilities for making the most of Cuba's favorable situation upon a great and permanent marine highway. The coast-line is 2,000 miles long, or much more than that if we take into account all its indentations. Capacious harbors, quite evenly distributed along the north coast, are those of Baracoa, Nipe, Gibara, Nuevitas, Sagua la Grande, Matanzas, Havana, Cabanas, and Bahia Honda; and, on the south coast, Cienfuegos, Trinidad, Manzanillo, Santiago de Cuba, and Guantanamo. Besides these there are scores of fairly safe roadsteads and harbors of moderate size. Therefore no plantation on the narrow island can be very far away from some port at which supplies may be received and from which produce may be shipped.

The mountains of Cuba occur in three distinct groups. Beginning in the westernmost province, Pinar del Río, we find the Guaniguanico range (Sierra de los Orgaños; greatest altitude, 2,532 feet), extending from Cape San Antonio to the boundary-line of Havana province, and thence continued in lower disconnected hills which give a bold outline to the northern coast of the four central provinces, and become the chief feature of the impressive landscapes around Sagua de Tanamo and Baracoa, far away in the east. The Guamuhaya group occupies but a limited area in the southern part of Santa Clara province, between the cities of Cienfuegos and Trinidad. Its highest summit, El Poterillo, is 2,900 feet. While the foregoing are of no great height, but owe their attractiveness rather to beauty or oddity of outline, the luxuriance of the foliage on their slopes, and the exquisite charm of the valleys they enclose, we find on the southern coast of Oriente province a range that, in sheer majesty, certainly rivals and probably surpasses any mountains of the North American continent, east of the Mississippi — the Sierra Maestra, including the Sierra del Cobre and the Macaca group. Rising precipitously above the Caribbean Sea, this cyclopean wall extends through two degrees of longitude, from Cape Cruz to the city of Santiago, in a nearly straight east and west line. The altitudes of three widely separated peaks are given as follows: The Cerro del Oro, 3,300 feet; La Gran Piedra, 5,200 feet; and Pico Tarquino, 8,600 feet. From this it will be seen that all the northern parts of the island, and the southern coast as far west as Cape Cruz, are either mountainous or at least well above sea-level. But a long stretch of coast on the Caribbean Sea, especially the southern portion of Santa Clara and Matanzas provinces, is comparatively low-lying and swampy.


FLORIDA
Key West
Florida Bay
Straits of Florida
GULF OF MEXICO
HAVANA
Guanabacoa
Matanzas
Cardenas
Nicholas
PINAR DEL RIO
Pinar del Rio
Cienfuegos
Trinidad
Cienaguilla
Golfo de Casones
Cabo Frances
C. Corrientes
Isla de Pinos
Archipielago de los MANGLES
CARIBBEAN
CUBA
Scale of Miles
0 10 20 30 40 50 75 100
Explanations
Capital of Cuba (see) HAVANA
Capitals of Provinces (see) Matanzas
Railroads
Principal Water Routes
GRAND CAYMAN


Providence N. W. Channel
Providence N. E. Channel
GREAT ABACO I.
WHALE CAYS
JOULTER CAYS
NEW PROVIDENCE I.
Nassau
James Pt.
ELEUTHERA ISLAND
Palmetto Pt.
Eleuthera Pt.
Bird Pt.
CAT ISLAND
Exuma Sound
Devils Pt.
Columbus Pt.
SAN SALVADOR
BIMINI I.
BILLY I.
ANDROS ISLAND
BIGWOOD CAY
YELLOW CAY
CONCEPTION I.
GREEN CAY
GREAT EXUMA I.
C. St. Maria
RUM CAY
LONG ISLAND
CUPLY CUT CAYS
LARKS NEST
BANANA CAY
Crooked Island Passage
C. Verde
CROOKED I.
ACKLIN I.
FORTUNE I.
REAL CAY
GREAT RAGGED I.
CAYO COCO
Canal Viejo de Bahama
CAYO GUINCHOS
Pta. de Maisi
ISLA GUAJABA
El Saltadal
CAYO SABINAL
CAYO S. DOMINGO
Gibara
Pta. de Salsa
Holguin
Manzanillo
Santiago de Cuba
Windward Passage
ATLANTIC OCEAN
CAMAGUEY
ORIENTE
NORTH SEA

The great Zapata swamp is formed where the gradual southern slope reaches the Caribbean level. Beyond the limits of the Zapata is an archipelago of islets, the so-called "Gardens" or "Little Gardens" (Jardinillos), crowding the shallow waters between Cuba and the Isle of Pines.

As we study the geology of these mountain groups we come upon the secret of Cuba's agricultural wealth — the fertility and depth of the soil that covers the pre-Tertiary sedimentary rocks forming the base of the island's structure. Above the diorites, basalts, and serpentines, the granitoid rocks, the primary and secondary sandstones, limestones, and conglomerates, is a great sheet of late Tertiary limestone. This white sheet or crust, of remarkable thickness, was formed as a deposit of "organically derived oceanic material," says Dr. Robert T. Hill; and in his valuable book (see *Bibliography*) he adds: "The island was reclaimed from the sea by a great mountain-making movement in late Tertiary time, succeeding the deposition of these limestones. In later epochs, Pliocene and Pleistocene, the island underwent a series of epeirogenic subsidences and elevations which affected the coastal borders, producing the wave-cut cliffs and a margin of elevated reef rock which borders the coast in many places." About two-thirds of the entire area of Cuba is covered with soils derived from this organic limestone — soils whose colors, red and black, are not at all suggestive of their origin. In quality, in depth, and in the proportion they sustain to less productive districts of the island, these calcareous soils are probably unrivaled in the world. It is quite certain that they have no rival in any land whose situation is equally favorable for easy and cheap transportation of the produce to foreign markets. A different type of soil, also valuable in agriculture, is the clay and gravel resulting from the decomposition of Tertiary igneous rocks. This occurs in parts of the provinces of Oriente Santa Clara, and Matanzas. Approximately one-half of the island has been cleared, but between 13,000,000 and 15,000,000 acres are still covered with forests. The climate also favors vegetation, for the air is moist and injurious extremes of temperature are unknown. At Havana the thermometer averages 77° F. for the year, or 82° F. in the months of July and August, and 72° F. in December and January. At Santiago the average temperature for a year is somewhat higher — about 80° F.; on the other hand, towns located in the interior at an elevation of 200 or 300 feet above sea-level have an agreeable climate, the temperature averaging not more than 74° F. Rain falls most abundantly between the end of April and the beginning of

November. The largest river is the Cauto, which flows westward through Oriente province and empties into the Gulf of Guacanayabo. Many smaller streams make their way from the mountains to both the southern and northern coasts; not a few have carved out subterranean passages through the white limestone, and thus, in ages long past, caverns of remarkable beauty have been formed. Even to-day in the western provinces, a number of streams disappear from view in some underground channel long before the sea is reached.

## NATURAL RESOURCES

In the mountainous eastern province deposits of copper, iron, manganese, mercury, zinc, silver, antimony, lead, etc., exist, and some of the mines have been worked on an extensive scale. The copper mines at Cobre, near the city of Santiago, were opened in 1524, and ranked as the greatest copper mines in the world until the deposits of this metal in the United States were developed. Iron ore of excellent quality outcrops on the slopes of the Sierra Maestra range. Especially worthy of mention, in the Province of Oriente, are the hematite and magnetite mines at Daiquiri and other points farther toward the east and north. Large deposits of silver have been found in the provinces of Camagüey, Oriente, and Santa Clara, and every province contains mines of asphaltum. Cedar, mahogany, pine, lignum-vitæ, ebony, rosewood, logwood, and other dyewoods, are valuable products of the forests for export; for the use of the Cubans themselves the royal palm stands unrivaled. Besides these well-known varieties, there are many less familiar trees — not only the characteristic flora of the other West Indian islands, of Central America, and Florida, but plant-forms that developed quite distinctive characteristics in the depths of these forests whose borders only were touched by the inexpert native lumberman. More than 3,350 native plants were catalogued before an exhaustive study of the subject could be undertaken. All kinds of tropical fruits grow luxuriantly, many of them without cultivation. In point of value the banana heads the list. Cocoanuts, oranges, lemons, limes, and pineapples are grown for shipment in larger or smaller quantities to correspond with the demand in foreign markets, the supply being practically unlimited within a short time after the demand becomes known. The anon, mango, rose-apple, pomegranate, sapote, tamarind, fig, citron, guava, aguacate (alligator pear), mamey, guana-

bana, etc., are abundant. The cultivation of grapes was forbidden by the Spaniards in the interest of the wine merchants of the Peninsula. Coffee culture was at one time a flourishing industry; and since the comparatively small amount still grown in the eastern end of the island is of excellent quality we may expect coffee-raising to prove one of the minor sources of wealth in the future. Cotton grows freely in Cuba. Its cultivation on a commercial scale, abandoned after the liberation of the slaves, was resumed experimentally in the province of Oriente in 1902–03. In all parts of the island grasses grow rankly, and forage is abundant throughout the year. Other conditions favorable to cattle-raising are the mildness of the winters, the streams of fresh water, and the ready access to important markets on the Atlantic coast. Before the insurrection there were two and one-half millions of cattle in Cuba; at its conclusion not more than 75,000. The promotion of this industry was encouraged by the Palma administration in 1902–03, and undertaken largely by American capitalists.

## HISTORY

A score of years after the discovery, the town of Baracoa was founded by Spaniards under the leadership of Velasquez; next in rapid succession, came Trinidad, Sancti Spiritus, Puerto Principe, and Santiago, dating from 1514 to 1515. In the year last mentioned Velasquez founded the original town of Havana (San Cristóbal de la Habana) on the south coast; but in 1519 the present site on the north coast was chosen, and to it the settlers of the older town were transferred. So important did this new Havana appear to be that the first governor of Cuba called it "The Key of the New World." Burnt by the buccaneers in 1528, it was rebuilt and surrounded with fortifications by De Soto. Again captured and sacked by pirates in 1556, it was again fortified, and more strongly, by direction of the Spanish crown. Morro Castle was begun before 1600. During the 16th century the value of Cuba in Spanish eyes was precisely what the words "Key of the New World" expressed: at its ports expeditions were fitted out for conquest and exploration of the mainland, but there was no thought of obtaining revenues from the island itself except by the discovery of the precious metals, the futile search for which was never quite abandoned. When the first plants of sugar cane were

imported from the Canary Islands to start an industry more remunerative than mining, it became necessary to import slave-labor from Africa also. The Indians had been nearly exterminated — not entirely so, as is commonly asserted, for the aboriginal strain can still be detected in the physiognomy of some Cubans. English, French, and Dutch pirates continued to ravage the coasts during the next century. Cuban cities of that time, with their old-fashioned defensive works, were like the walled towns of mediæval Europe. An attack of the Dutch fleet upon the capital was repulsed



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Central Park and Opera House, Havana, Cuba

in 1628; in 1762, however, a force of English and American colonial troops, under Lord Albemarle, took Havana, which they held until, by the terms of the treaty of Paris of 1763, Spain regained possession. A period of moderate prosperity and exceptionally good government followed. Las Casas, who came out as captain-general in 1790, worked earnestly and wisely to promote Cuba's interests; the Cubans, for their part, evinced their appreciation of such considerate treatment by a chivalrous display in Spain's time of need. Havana learned in 1808 that the Spanish dynasty had been overthrown by Napoleon; thereupon her citizens declared war against Napoleon. And when Spain was losing one after another of her American colonies, Cuba remained loyal. But prosperity,— the brilliant achievements in agriculture to which we have already referred,— brought long years of suffering to the "ever faithful island" and the mother country as well. The result was inevitable. When the long-sought treasures of Cuba were at last brought forth, not from gold mines but from fertile soil, Spain sought to make the treasure all her own, as she had monopolized

the precious metals three centuries before. With a few noble exceptions, the high Spanish officials sent to Cuba were simply belated *conquistadores*, lacking the personal valor, but possessing the acquisitive talent of the adventurers who first exploited Mexico and Peru. The decree of 1825 placed the lives and fortunes of all Cubans at the disposal of the captains-general. Conspiracies, insurrections, filibustering expeditions from the United States, called forth by oppressive measures, and in turn furnishing a poor justification of repressive measures,— are the main incidents of the story of the 70 years next following. We may mention only the conspiracy of 1829, the rising of the blacks in 1844, the Lopez expeditions in 1849, 1850, and 1851, the revolts in 1855, the Ten Years' War (1868–78) and the revolution of 1895. About 200 Americans took part in the ill-starred expedition of 1851, and of those who surrendered after Lopez's defeat many were shot. Captain-General Tacó (1836) set native Cubans against resident Spaniards by impolitic discrimination, intensifying that antagonism between the two elements of the white population which to-day makes political controversies rancorous. The cause of the revolutionary movements between 1849 and 1855 was the cruelty of a military commission in 1848, more than 3,000 persons being tortured, imprisoned, banished, or executed at that time for real or supposed complicity in a plot. The cry of outraged patriotism, the " Grito de Yara ", was heard 10 Oct. 1868. During a part, at least, of the Ten Years' War, the aim of the Spaniards was, as Captain-General Valamaseda wrote, to convert the island into a desert. Spain sent 257,000 men against the insurgents and lost 208,000 of them, according to official reports; the Cubans lost 40,000 persons, men, women, and children; the cost of the war, excluding the value of property destroyed, was $300,000,000. Midway in this struggle the *Virginius*, a vessel whose American register had been fraudulently obtained, was captured by a Spanish warship, taken into the harbor of Santiago, and about 50 of her officers and men were shot without civil trial. The Treaty of Zanjon (1878) restored the old oppressive conditions; moreover the cost of the war was made a new burden for the island to bear, while vexatious restrictions hampered its commercial relations with other countries. " Underground Cuba " gathered force for a final effort; in February 1895, a little flame of insurrection was kindled; in the course of three years the whole island was again laid waste. Throughout the last century the government of the United States manifested an interest in Cuba's fate. In 1823, Mr. Monroe being President, a despatch was sent by the secretary

of state to the American minister at Madrid, in which the secretary (Mr. Adams) called particular attention to the commanding position which Cuba occupies with reference to the Gulf of Mexico and the Caribbean Sea, and expressed the opinion that there was no other foreign territory which could compare with it in the sum of the national interests of the United States. In 1825 and 1826 Colombia, being then at war with Spain and designing to invade Cuba and Porto Rico, refrained from this projected attack on the strength of a protest from the United States — a protest in the interests of the slave-power; the new Spanish-American states "always marched under the standard of universal emancipation." Martin Van Buren said in 1829: "It is the interest of the southern section of the Union that no attempt should be made in Cuba to throw off the yoke of Spanish dependence." Webster, in 1848, declared that Cuban emancipation "would strike a death blow at the existence of slavery in the United States." Thus for 20 years the southern slave-owners insisted that the status of Cuba and Porto Rico should not be changed.

The annexation idea came to the front in 1848. A proposition for the purchase of the island was made by President Polk, through his secretary of state, Mr. Buchanan, who wrote to the American minister authorizing the latter to offer $100,000,000 to Spain as compensation for the surrender of a colony which was, as we have seen, a particularly troublesome possession just then. The strategic value of Cuba was dwelt upon in this correspondence, and the fear was expressed that the island might fall into Great Britain's hands, in which event that nation would exercise supreme control over the Gulf of Mexico. The offer was declined by Spain. Both England and France were warned in 1852 that the United States would not admit the claim of any other power to intervene in a dispute of which Cuba was the subject. In February 1854 the cargo of an American steamer, the *Black Warrior*, was seized unjustifiably in Havana. It seemed for a time that war, and the acquisition of Cuba by force, might ensue; but reparation was offered by Spain, and was accepted. President Grant intimated in 1875 that "mediation and intervention" might become necessary to put an end to the long struggle then in progress.

The revolution of 1895 falls naturally into three periods. First, that of Capt.-Gen. Martinez Campos, whose fair fighting utterly failed to prevent the spread of the revolutionary movement from the eastern to the western provinces; second, that of Captain-General Weyler, who inaugurated the shameless policy of reconcentration; third, that of Captain-General Blanco — includ

ing the events from Weyler's recall to the destruction of the *Maine*. Fighting fairly and like a gentleman, Campos was fairly beaten by men who developed positive genius in guerrilla warfare — Gomez and Antonio Maceo, who knew how to win by skilful evasion, by opportune attack, and, above all, by making an ally of every peasant and living on the country. Maceo crossed both trochas, and reached Pinar del Rio province, thus carrying revolt from one end of the island to the other. Among the hills of the Sierra de los Organos he maintained his band of followers and defied all efforts to dislodge him up to the close of the year 1896. Then he risked his life once too often, and was killed. Campos failing to check the insurrection, Weyler was sent to crush it. The reasoning of the latter was strictly logical. He learned that Cuban peasants supplied the rebels with food, with information in regard to the movements of Spanish columns, and with ammunition — bought, stolen, or brought to the coast by filibusters; he did not shrink, then, from the extreme cruelty involved in the removal of the country folk from their homes to garrisoned cities, where, as "reconcentrados," they should become quite harmless. On 21 Oct. 1896, his infamous proclamation was issued. Thousands of Cuban families were pent in towns or zones under surveillance of a Spanish garrison; and as time went on they died of starvation and fever.

When Spain's prime minister, Señor Cánovas del Castillo, was assassinated, 8 Aug. 1897, the prop of Weyler's Cuban policy was withdrawn. His successor, General Blanco, took to Cuba a policy of compromise. Autonomy was offered; and, for the rescue of the reconcentrados, the suggestion was made that charitable people in the United States might forward supplies to be distributed by the American consuls in Cuba. The proposal of autonomy was rejected with emphasis: General Blanco's emissary who brought the message was shot by an insurgent commander. And when it became known that an appeal for contributions to feed starving Cuba had been made in the United States, formidable riots in Havana expressed resentment of the proffered relief, which was regarded as the entering wedge of the dreaded intervention. For the protection of American interests the Atlantic squadron was ordered to make its headquarters at the Dry Tortugas, within six hours' sail from the Cuban capital; and on 25 January the battleship *Maine* was sent to Havana harbor. The Spanish government sent the cruiser *Vizcaya* to New York harbor soon afterward. On 9 Feb. 1898, a letter addressed to Señor Canelejas by Señor Dupuy de Lome, Spanish minister to the United States, was published in the newspapers of the latter country. Its

cynical tone and insulting characterization of President McKinley were resented, and Señor de Lome resigned his office. One week later the *Maine* was destroyed " by the explosion of a submarine mine,"—to quote from the report of the court of inquiry,—" which caused the partial explosion of two or more of her forward magazines." The court was unable to obtain evidence fixing the responsibility upon any person or persons; before the official investigation was made, however, public opinion in the United States had rightly or wrongly assigned the responsibility, and war with Spain seemed inevitable. On 8 March, the House of Representatives passed a bill appropriating $50,000,000 for national defense. Senator Redfield Proctor's statement of his personal observations in Cuba, read to the Senate 17 March, did not make for peace: it confirmed previous reports which had excited pity and indignation. Diplomatic representatives of the six great European powers called at the White House 7 April to present a joint note, a " pressing appeal " for " the maintenance of peace." President McKinley's reply was conciliatory, but the resolve he had formed was expressed in his message of 11 April: " In the name of humanity, in the name of civilization, in behalf of endangered American interests, which give us the right and the duty to speak and act, the war in Cuba must stop." The war in Cuba had, indeed, stopped or halted. The queen regent of Spain had directed General Blanco to proclaim a suspension of hostilities, in order to prepare and facilitate the restoration of peace; and the President's message concluded with the statement that he had received official information of this circumstance. The text of General Blanco's proclamation had been published, and the orders of General Weyler revoked. It was asserted that the reconcentrados were to be permitted to return to their homes, that the sum of $600,000 had been voted for their relief, and that public works had been undertaken for the purpose of giving employment to the poor. Spain had offered to submit to arbitration the disputes which might arise in the matter of the *Maine*. President McKinley called attention to all these things, and requested that they should be given full weight in the deliberations of Congress. But the " full weight " of such programmes had been ascertained. The reports of American consuls in Cuba accompanying the message described conditions which it seemed impossible to reform without forcible intervention. The famous joint resolutions of 19 April, recognizing " the independence of the people of Cuba, demanding that the government of Spain relinquish its authority and government in the island of Cuba, and withdraw its land and naval forces from Cuba and

Cuban waters, and directing the President of the United States to use the land and naval forces of the United States to carry these resolutions into effect," concluded with the words: "The United States hereby disclaims any disposition or intention to exercise sovereignty, jurisdiction, or control over said island, except for the pacification thereof, and asserts its determination when that is accomplished to leave the government and control of the island to its people."

The Spanish-American War began on 21 April 1898; Admiral Cervera's fleet was destroyed off Santiago 3 July; the formal surrender of Santiago took place on 17 July. In the protocol suspending hostilities which was signed on 12 Aug. 1898, it was provided that Spain should relinquish all claim of sovereignty over and title to Cuba, and that Cuba should be immediately evacuated. The evacuation proceeded gradually; the last of the Spanish troops leaving 1 Jan. 1899. The participation of the revolutionary army in these events has two noteworthy features: A force of about 3,000 Cubans, led by Gen. Calixto Garcia, joined the American troops at Aserraderos and served through the Santiago campaign, forming a part of the line about the city. Later, the retiring Spanish army was closely followed, outside of the chief cities, by the Cuban army, which took charge of the towns and country, maintaining order and performing police duty; and, when finally disbanded, dispersing peacefully among the people. The treaty of Paris, signed 10 Dec. 1898, provided for the temporary occupation of the island by the United States. By an order dated at Headquarters of the Army, Washington, 13 Dec. 1898, a division known as the Division of Cuba was created, under command of Maj.-Gen. John R. Brooke. The authority of military governor of the island was exercised by General Brooke from 28 Dec. 1898, until 20 Dec. 1899, when he was succeeded by Maj.-Gen. Leonard Wood, who continued in office until 20 May 1902. During the entire period of American occupation (18 July 1898 to 20 May 1902), the total revenues were $57,197,140.80; amount in hands of the treasurer at the close of business, 19 May 1902, $635,170.29. The latter sum was paid to the Republic of Cuba; the former was expended for maintenance of the government ($2,780,781.16), justice and public instruction ($11,108,187.46), sanitation ($9,706,258.20), public buildings, works, ports, and harbors ($5,833,607.90), charities and hospitals ($4,124,986.60), barracks and quarters ($2,525,483.78), etc. A comparatively small amount was used for the pay of the army; very large sums devoted to works of public utility, in the interests

of the Cuban people. Cuban imports during this period amounted to $225,437,135, the largest items being foodstuffs, animals, and animal products, cotton, silk, vegetable fibres, wool, etc., and metals and metal manufactures. From the United States came 43 per cent of imports, while the rest of the world supplied 57 per cent. Cuban exports amounted to $180,639,067, the United States taking 75 per cent. The articles exported to the United States were tobacco and its manufactures, $45,400,670; sugar and molasses, $77,648,819; wood, unmanufactured, $1,752,451; iron and manganese ore, $2,587,715; fruits and nuts, $2,547,392; all other articles, $5,479,092. Thorough sanitary measures were adopted; the death-rate of the island was lowered; the causes of yellow fever were discovered, and that disease nearly exterminated. Especially successful were the efforts to beautify Havana and improve its sanitary condition; that city became one of the most attractive in Latin America. The reforms extended to the prisons, hospitals, and asylums; a general system of free schools was established throughout the island; in many practical ways Cuba was prepared for self-government.

A constitutional convention, the members of which were elected 15 Sept. 1900, met in the city of Havana the following November. The Constitution of Cuba was adopted 21 Feb. 1901, and an appendix thereto (the "Platt Amendment") 12 June 1901. A form of government was thus provided which, in its main features, resembled that of the United States. The appendix, however, curtails Cuban independence. Its eight articles follow:

I. The Government of Cuba shall never enter into any treaty or other compact with any foreign power or powers which will impair or tend to impair the independence of Cuba, nor in any way authorize or permit any foreign power or powers to obtain by colonization or for naval or military purposes, or otherwise, lodgment or control over any portion of said island.

II. That said Government shall not assume or contract any public debt to pay the interest upon which, and to make reasonable sinking-fund provision for the ultimate discharge of which the ordinary revenues of the Island of Cuba, after defraying the current expenses of the Government, shall be inadequate.

III. That the Government of Cuba consents that the United States may exercise the right to intervene for the preservation of Cuban independence, the maintenance of a government adequate for the protection of life, property, and individual liberty, and for discharging the obligations with respect to Cuba imposed by the Treaty of Paris on the United States, now to be assumed and undertaken by the Government of Cuba.

IV. That all the acts of the United States in Cuba during the military occupancy of said island shall be ratified and held as valid, and all rights legally acquired by virtue of said acts shall be maintained and protected.

V. That the Government of Cuba will execute, and, as far as necessary, extend the plans already devised, or other plans to be mutually agreed upon, for the sanitation of the cities of the island, to the end that a recurrence of epidemic and infectious diseases may be prevented, thereby assuring protection to the people and commerce of Cuba, as well as to the commerce of the Southern ports of the United States and the people residing therein.

VI. The Island of Pines shall be omitted from the boundaries of Cuba specified in the Constitution, the title of ownership thereof being left to future adjustment by treaty.

VII. To enable the United States to maintain the independence of Cuba, and to protect the people thereof, as well as for its own defense, the Cuban Government will sell or lease to the United States the lands necessary for coaling or naval stations, at certain specified points, to be agreed upon with the President of the United States.

VIII. The Government of Cuba will embody the foregoing provisions in a permanent treaty with the United States.

The convention adopted the foregoing articles reluctantly, after considerable delay, and relying upon representations made to certain delegates by President McKinley, Senator Platt, and other officials at Washington, that the tariff on Cuban products sent to the United States would be reduced, as a proper concession in view of the surrender by Cuba of such valuable privileges. The Congress of Cuba (elected 31 Dec. 1901 and 24 Feb. 1902) was convened in Havana 5 May 1902, to examine into the credentials of its own members, and to count and ratify the electoral vote.

At 12 o'clock, noon, 20 May 1902, the Republic of Cuba was established; Tomás Estrada Palma being president, and Luis Estevez Romero vice-president. The transfer was made in the reception hall of the palace of the military governor. A salute of 45 guns was fired while the document of transfer and President Palma's reply were being read; the troops of the Seventh United States Cavalry, formed in the plaza before the palace, presented arms; the band played the American national air, and the American flag was lowered. Next, the Cuban flag was hoisted and greeted with the national salute of 21 guns by the U. S. S. Brooklyn; the Cuban national air was played; the American troops saluted the Cuban flag, and then immediately embarked. There remained on the island, at Santiago, Cienfuegos, and Havana, small forces of artillery, for the preservation and care of the coast defenses, and to avoid leaving the island entirely defenseless against external attack, pending such arrangements for naval stations as were contemplated. Though the failure to secure tariff concessions from the United States as promptly as was expected increased the difficulty of their financial problems, the people of Cuba have a fair record for the first year of their independence.

An intelligent effort was made to keep the most important industries moving along in the usual way, and to preserve order throughout the island — the single conspicuous exception being the strike of tobacco workers in Havana (November 1902). From the first the balance in the treasury showed a tendency to increase. The completion of the central railway, connecting Santa Clara with Santiago, and the western with the eastern provinces for the first time by a continuous line of railway transportation, gave a new impetus to industrial development in 1903.

## Recent History

The famous treaty of reciprocity between the United States and Cuba, having been approved by the Senate of the United States 17 Mar. 1903, and by the Cuban Senate 28 Mar. 1903, was submitted to and accepted by the House of Representatives at Washington, convened in extraordinary session 9 Nov. 1903. Violent disputes between the Cuban Liberals and Moderates, culminating in the insurrection of 1906 which the Palma government was unable to suppress, led to the second American intervention. A census of the island was taken and fresh elections were held in 1907; and in January 1909 the American troops were again withdrawn. On 16 Mar. 1912 the hull of the battleship *Maine*, having been raised by American engineers, was towed three miles outside of Havana harbor and sunk. On 20 May 1913 Gen. Mario Garcia Menocal (conservative) was inaugurated as President, and Dr. Enrique José Varona as Vice-President. In 1915 the Cuban delegation to the Pan American Financial Conference reported most favorably in respect to the important and very close commercial and financial relations between the United States and Cuba, so essential to the latter's well-being and political stability. This favorable condition "obviously is due in great measure to the beneficial operation of the reciprocity treaty entered into between the two countries in the year 1903, as may be seen by the statistics showing the increase in the reciprocal trade relations since the treaty was put into effect." (Memorandum submitted by the Cuban delegation, page 384.) Again, in the group conference report, page 379: "So clearly has it been recognized that these special relations [which were established by the reciprocity treaty] existed between Cuba and the United States that many measures are already in force for promoting intimate commercial and financial relations which in the case of other countries are only in the preliminary stage. From the beginning the national

loans of Cuba were taken by American bankers and are still held largely in the United States. The means of transportation and other public utilities have also been to a large extent established and are now operated by American capital." (For the expansion of Cuba's trade with the United States, and a summary dated 1 May 1916 of the island's whole foreign trade, see under COMMERCE.) On 11 Feb. 1917 two companies of soldiers encamped just outside Havana, mutinied, and on 12 February, three days before the date set for the new presidential election, nearly the entire force of government troops in Ciego de Avila, Santiago de Cuba and other towns in the eastern part of the island revolted and took possession forcibly of those districts. The Cuban government met the crisis with energy and had the moral support of the government of the United States; accordingly the revolt was suppressed in less than two months (before the middle of April 1917).

## GOVERNMENT

Executive powers are conferred upon the President, who is assisted by a cabinet of nine officers, the Secretaries of State, of Justice, of Government, of the Treasury, of Public Works, of Agriculture, Commerce and Labor, of Public Instruction and the Fine Arts, and of Health and Charities, and of the Executive Department. Both President and Vice-President are elected indirectly, by an electoral college, for the term of four years; and they cannot serve more than two consecutive terms.

The legislature or National Congress is composed of the Senate (24 members) and the House of Representatives (83 members). Senators are elected indirectly for eight-year terms, four senators for each province, and the Senate is renewed by halves every four years. Representatives are elected by popular vote for four-year terms, at the rate of one representative for every 25,000 inhabitants. Every male citizen 21 years of age or over has the right of suffrage. The House is renewed by halves every two years. Congress meets twice each year, on the first Monday of April and November, and the regular sessions last 40 days or more.

The Judiciary consists of a National Supreme Court, six superior courts, courts of first instance and minor courts. Justices of the Supreme Court are appointed by the President with advice and consent of the Senate.

## EDUCATION

The military academy was established in 1912. Instruction in literature, in science, the professions, etc., is given at the University of Habana. The elementary and secondary schools were reorganized after the conclusion of the war with Spain, and appropriations on a liberal scale have been made by the government for their maintenance. The number of schools is given as 4,000, with 350,000 pupils. That department of the national government known as the Secretaría de Instrucción Pública y Bellas Artes is divided into two sections, the first having under its control all the elementary schools and the second having in its care the normal and high schools, the School of Painting and Sculpture, the School of Arts and Crafts, the National Conservatory of Music and Declamation, the University of Cuba, the National and other public libraries, and the National Astronomical Observatory. In 1915 laws were passed authorizing the establishment of normal schools in the provinces.

## AGRICULTURE

As early as the 16th century the sugar industry was established under the special protection of Spanish sovereigns, but after more than 300 years have passed we found, at the beginning of the 20th century, only about 7 per cent of the area of the island devoted to the sugar crop — in other words, about 2,000,000 acres out of the total 28,000,000 acres. During the 17th and 18th centuries the annual output was about 28,000 tons. This increased to 75,000 tons in the first quarter of the 19th century, to 200,000 tons in 1840, and to nearly 300,000 tons in 1850. The increase is significant, for it was directly occasioned by the withdrawal of an annual allowance of $1,000,000 that Spain made to the Cuban administration out of the revenues from Mexico. The loss of Mexico to the Spanish crown closing that source of income, Cuba was thrown upon her own resources, with the result that she turned her attention more earnestly to the development of this profitable form of agriculture. The period 1853-1868, in which the amounts produced increased from 322,000 to 749,000 tons, was in a restricted sense Cuba's Golden Age. Not until 1891 was a greater amount obtained. The million mark was passed in 1894 and 1895.

The insurrection beginning in 1895 reduced the crop of the following year to 225,221 tons, and the continuance of hostilities in

1897 and 1898 forced the output of those years down to 212,051 and 300,000 tons. With the restoration of peace in 1898, a new era of development began; and though four years passed before the injuries to mills and fields could be fully repaired, the conditions at the beginning of 1903 justified the hope that the prosperity of the best years before 1896 would be regained. We shall show it brilliantly surpassed by the prosperity of 1915 and 1916. (See under COMMERCE).

In the year 1840 the output of beet-sugar for the world was but 50,000 tons, principally grown in France. From that date the production of this competing industry increased so rapidly that in 1894 it was 3,841,000 tons, and naturally this enormous addition to the world's supply caused a reduction in the price of cane-sugar which seemed ruinous, and indeed proved to be ruinous to the planters of many sugar-growing countries. But in Cuba the problem of producing sugar at a profit, despite the constant tendency toward lower prices, has always been solved with brilliant success. It was solved in the great crisis of 1884, and in more recent years whenever it has been presented. In 1902–03 improvements in agricultural methods, in machinery, and in management effected a reduction of the cost of the standard grade on some of the larger estates to much less than two cents a pound. It is evident that such results could not be achieved unless the soil and climate were in the highest degree favorable to the growth of sugar-cane; and what we have stated above is sufficient to show that large districts in which the soil is equally good had never been touched by the plow.

Soil and climate are also favorable to the production of valuable tobacco. The area in which the characteristic Cuban leaf can be grown is, however, as we shall see, much more restricted. The systematic cultivation of tobacco was not begun in Cuba until 1580, though the discovery of the use of the indigenous plant by the natives of this island dates from the first voyage of Columbus in 1492. Early in the last century the leaf grown in the Vuelta Abajo district (an area of about 90 miles in length by 10 in width, situated in the province of Pinar del Rio) won recognition the world over on account of its excellence; and as the profits of this industry, wherever it could be carried on advantageously, were much greater than those of sugar-making, no effort was spared to extend the area of production into other parts of the island. At least 10,000 tobacco plantations were in operation before the year 1880, but all experiments demonstrated the inferiority of the soil for this use outside of the Vuelta Abajo. Before the revolution of

1895, the production of leaf-tobacco in all the island was about 560,000 bales (averaging 50 kilos each) in a year. Of this amount about 260,000 bales were harvested in Pinar del Rio province, about 70,000 bales in the province of Havana, 130,000 bales in the province of Santa Clara, and 100,000 bales in the province of Santiago (Oriente). Only the 260,000 bales from the Vuelta Abajo were of the finest quality, the other components of the annual crop being known as the Partido leaf, the Remedios leaf, and the Gibara or Mayari — in the main coarser and cheaper grades. The amount of soil available for the production of first-class tobacco being thus limited, the conditions under which it had to be grown were also not at all favorable to either great or cheap production before the year 1903. First-class tobacco lands of the Vuelta Abajo were held at an exceedingly high price, and large rentals were demanded. Irrigation and constant care in most sections were absolutely necessary; efficient labor was scarce, and untrained laborers were not employed lest their blundering should ruin the product of the best fields. The average cost of production per caballeria (33.17 acres) painstaking investigation showed to be in that part of the island between $8,000 and $9,000; and the conclusion is that the production of tobacco in Cuba before 1903 was much more expensive than in any other part of the world. For this reason, and in view of the failure to secure good results outside of a few small districts, it appeared that the tobacco industry was destined, as compared with the cultivation of sugar, to play a secondary rôle, though still an important one, in the commercial development of Cuba. During seasons of moderate prosperity it furnished employment for about 80,000 persons. The value of that part of its product exported to the United States annually, before the insurgents laid waste the Vuelta Abajo and Partido districts, was between $9,000,000 and $13,000,000. The transfer in 1902-03 of large interests to American capitalists led to the introduction of modern labor-saving devices and economical methods. Formerly growers made the mistake of collecting seeds from inferior third-growth plants, and the result was seen in a gradual degeneration of the plants and diminution of their leaves. To check this degeneration, strong fertilizers had occasionally been used in such large quantities that the leaves, while regaining their lost size, lost much of their fine quality. This was done even after it became a matter of common knowledge that the crops could be improved by scientific selection of seeds. For work in the fields antiquated wooden plows were still used in 1902; and the tobacco land was cultivated in small farms, an arrangement that seemed

necessary to those who employed only the primitive methods of destroying insects and ignored the spraying machine. So long as the old methods prevailed, a native family could not take care of more than a small field; moreover, the labor of the entire family was required, for work went on day and night. Every leaf had to be examined frequently and kept free from tobacco caterpillars. The wife and children aided the adult male laborer, taking turns throughout the 24 hours. In such details as these, improvements were made by the new management, not without opposition. The early attempts to introduce reforms in the established methods of handling the leaf in the manufactories was one cause of the strike of operatives and the riots in Havana (November 1902).

## COMMERCE

Examination of the trade movement into and out of Cuba in 1914 and 1915 shows that the value of Cuban foreign commerce in the former year was $296,555,000, and in the latter $409,739,996; one explanation of these large figures being that the area of the land devoted to sugar crops was so increased that the crop grown in 1914 and available for exportation amounted to 2,500,000 tons. The crop grown in 1915 promised to make between 2,560,000 and 3,000,000 tons — much more than twice the amount of the largest crops of 1894 and 1895 or any other year before 1903. The chief products exported by Cuba are shown to be: sugar and its products (73.4 per cent of total in 1914); tobacco — leaf and manufactures (15.3 per cent of total); fruits, coffee, cocoa, etc. (2 per cent); minerals (1.9 per cent); other articles (7.4 per cent). The principal articles imported by Cuba are: foodstuffs (39.3 per cent of total in 1914); textiles, etc. (13.5 per cent of total); instruments, machinery, etc. (9.9 per cent); drugs, chemicals, perfumes, etc. (6.6 per cent); all other articles (30.7 per cent). An interesting fact to be mentioned in this connection is that the island, exporting practically all it produces, imports nearly everything it consumes. "The conditions," as stated in *The Americas* (see *Bibliography*), "are not favorable to manufacturing, and excepting cigars but little is done. There is one small sugar refinery, the product of which is sold in the home market, but the rest of the product is exported raw." The *Boletin Oficial de la Secretaria de Hacienda* (Treasury), dated 1 May 1916, published a summary of imports and exports of the Republic during the year 1915. From this it is seen that Cuba's imports from the United States in



Loading Vessels at Havana, Cuba
(Courtesy of the Pan American Union)

that year were valued at $104,723,108; from the other American countries, $8,022,586; from Germany, $799,903; from Spain, $19,807,435; from France, $5,197,110; from Great Britain, $15,287,998; from other European countries, $6,203,081; from all other countries, $4,397,012. In the same year Cuba exported to the United States goods valued at $206,164,414; to the other American countries, $3,356,875; to Germany, $7; to Spain, $8,021,230; to France, $1,135,404; to Great Britain, $33,033,016; to other European countries, $1,864,769; to all other countries, $716,048. In brief, the value of Cuba's imports was $155,448,233, and of her exports, $254,291,763, making the total for foreign commerce, as above stated, $409,739,996. Cuba's trade with the United States alone has expanded from $66,000,000 in the closing year of the last century to $310,887,522 in 1915, under exceptional conditions created by the European War, which also affect banking relations.

Cuba's total foreign trade for the period of June 1915 to July 1916 amounted to $537,825,000. Exports aggregated $336,801,000 and imports $201,024,000, the balance of trade in Cuba's favor being $135,777,000.

## BANKING AND FINANCE

Some of the principal banks of Havana are: Banco de Cuba, Banco Nacional de Cuba, Bank of Nova Scotia, Fidelity and Deposit Co. of Maryland, La Nacional, The Royal Bank of Can-

ada, The Trust Co. of Cuba, and the Banco de la Habana (with which The National City Bank of New York made certain arrangements mentioned in *The Americas*, Vol. I, No. 3, p. 15). Cuba has adopted a system of coinage founded on a parity with the American gold dollar, and the new monetary law declares money of the United States to be legal tender in Cuba. As a matter of fact, currency of the United States has long been employed in commerce as a supplement to the gold money of Spain and France. The new unit created in 1915 is the gold peso, worth exactly one dollar (gold of the United States), and the law provides for pieces of $20, $10, $5, $4, $2, and $1, together with silver pieces of one peso, two-fifths, one-fifth, and tenths (10 centavos), and also subsidiary coins, down to one centavo or one cent. Cuba has no paper money. The law establishing the new currency provides that only the coins of the Republic of Cuba and the national currency of the United States shall be legal tender in future; but this, of course, does not affect the validity of outstanding contracts. As intimated above, the American-Cuban trade, which had increased somewhat less than threefold (or to $182,000,000) before the European War, made its further advance in 1915 under exceptional conditions. These are explained as follows: In the past a large part of the island's banking business was carried on through Cuban banks with London, Paris and Hamburg, from which blank credits were obtained and used in Cuba for the movement of crops and advances made to planters; but the European War changed this state of affairs, and Cuba applied to American banks for the credits that Europe could no longer grant. The banks of the United States facilitated the granting of those credits to Cuba by means of loans secured by warehouse deposits of sugar, the price of which had advanced in comparison with prices of the two previous years, or by shipments of that product to the United States. The budget of 1914–15 was, by executive decree, continued in force for 1915–16. It showed estimated receipts $41,820,580 and expenses $40,262,905. The exterior debt at the commencement of 1915 was given as $57,420,000, the interior debt being $10,408,000.

## TRANSPORTATION AND COMMUNICATION

The aggregate extent of the railways is approximately 2,203 miles. The four systems in Cuba are The United Railways of Habana, The Cuba Railroad, The Cuban Central Railway, and

The Western Railway of Habana. Among the more important steamship lines entering Cuban harbors at present are the New York and Cuba Mail S. S. Co. (American) with bi-weekly service between Havana and New York, bi-monthly passenger service to Guantanamo and Santiago, weekly freight service to the same ports, and weekly service to Mexico; the United Fruit Co. (American), with weekly passenger and freight vessels between Havana and New York, New Orleans, and Boston; the "P. and O." Line (American), with daily, except Sunday, passenger and freight connections with Key West; the Munson Line (American), with weekly freight service to Mobile and frequent freight connections between important ports of the United States and Cuba; the United S. S. Co. (American), with bi-weekly freight service from Galveston to Havana; the American and Cuban S. S. Line, with fortnightly freight service between New York and Cuba; the Herrera Line (Cuban), with fortnightly service, Santiago to Porto Rico; the Royal Mail Steam Packet Co. (English); the General Transatlantic Line (French), with monthly passenger and freight service, France to Havana; and the Transatlantic Company of Spain, with monthly service to Spanish north coast ports via New York, and a monthly service to the south of Spain and Mediterranean ports. There are 525 post and telegraph offices, and telephone service is supplied in 114 cities and towns. A commission to report within six months upon a plan for the nationalization of the railway lines was nominated by presidential decree on 16 Feb. 1916.

## POPULATION

The number of inhabitants, according to the census taken in 1907, was 2,048,980. In 1913 it was given as 2,382,990. In 1916 (est.) between 2,500,000 and 2,600,000.

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## POLITICAL DIVISIONS AND CITIES

The area and population of the six Provinces of Cuba, with their capitals and populations, are as follows:

| PROVINCES | Area (in square miles) | Population | Capitals | Population |
|---|---|---|---|---|
| Havana (including Isle of Pines) | 3,174 | 651,266 | Havana | 325,000 |
| Pinar del Rio | 5,212 | 257,781 | Pinar del Rio | 52,472 |
| Matanzas | 3,260 | 270,514 | Matanzas | 55,031 |
| Santa Clara | 8,206 | 569,416 | Santa Clara | 54,885 |
| Camagüey | 10,076 | 154,567 | Camagüey | 79,166 |
| Oriente | 14,227 | 567,988 | Santiago de Cuba | 62,358 |
| Total | 44,215 | 2,471,531 | | |

### Havana

The principal city, chief seaport and capital of Cuba and largest city of the West Indies, is situated on the north coast of the island, on the Bay of Havana. In the older part of the city the streets are narrow and crooked and until the American occupation were in a state of neglect. The newer parts of the city are essentially modern, with wide, well laid out and paved streets and promenades. The climate is tropical but tempered by sea breezes. The constant humidity of 80 per cent renders the climate very trying to all but persons of the strongest constitution. The city has many fine public buildings and handsome residences. The water supply is excellent and the other public works have been greatly improved in recent years. Electricity is used as a motive power for the street railway. Havana is an important railway centre, many lines reaching the seaboard at this point. Industrially Havana has the first place among the cities of the island. Its chief industrial establishments are cigar and tobacco factories which are the largest in the world. Other industries are box and barrel making for the tobacco and sugar trade, wagons and carriages, and machinery. Havana has one of the safest harbors in the world, with a depth sufficient for vessels of the greatest draught. The total value of the foreign commerce of the port is approximately $140,000,000 annually, of which the imports represent about $88,000,000, and the exports $52,000,000. Foodstuffs and cotton are the principal articles of import, while cigars, tobacco, and sugar, form the bulk of the exports. About one-half of the imports are from the United States, and about two-thirds of the exports go to that country. Havana has steamer connection with New York, and various other ports of the United States, also with England, France and Spain. It is the seat of a consul-general of the United States.

### Santiago de Cuba

The second city of the Republic and a port of importance is situated at the northeastern end of the Bay of Santiago, on the southeast coast, 540 miles by rail from Havana. The bay is completely landlocked and deep, affording a safe refuge

to the largest vessels. The climate is hot and unhealthful, the sea breezes being cut off by the chain of mountains along the shore at this point. The streets are crooked and hilly, lined by one-story houses. Yellow fever was once prevalent here, but modern sanitation methods have practically eliminated it. The water supply is not very good. Santiago's industries are dependent on the mining districts of Oriente, where iron, copper and manganese are mined. The city contains iron foundries, machine shops, and tobacco factories. The foreign commerce is considerable and domestic trade is large also. Iron ore, maganese, copper, cabinet woods, coffee, sugar and tobacco are exported.

## Camagüey or Puerto Principe

The largest city of the interior, is situated about 30 miles from Nuevitas on the northern coast and 50 miles from Santa Cruz on the southern coast. It is situated in a savanna region and is the centre of a flourishing trade in cattle products, for which the region is well adapted. Sugar is also exported. The city has narrow, antiquated streets. Its industries are those connected with cattle raising. It is a station on the trunk railroad joining Santiago and Havana. It is the seat of a consular agent of the United States.

## Matanzas

The capital of the Province of the same name, and the third city in population, is situated 54 miles east of Havana, at the head of the Bay of Matanzas on the north coast. It has straight, regular streets and many handsome buildings. The climate is healthful but very hot. Sanitation is bad, but considerable improvement is taking place. The harbor is large and well sheltered, but accommodations for unloading or loading are poor. As a commercial centre Matanzas ranks next to Havana. Sugar, molasses, and rum are the chief exports, and manufactured articles are imported. The city's industries include a petroleum refinery, tanneries, shoe factories, distilleries, car and machine shops, cordage works, and guava jelly factories. The city is an important railway centre. A consular agent of the United States is stationed here.

## Other Cities

Pinar del Rio, 90 miles southwest of Havana, with which it is connected by rail, is the centre of the tobacco industry of the celebrated Vuelta Abajo. Santa Clara, on the trunk railway between Havana and Santiago, and 150 miles east of the former, is located in an elevated savanna region. It is a well-built city, with wide streets. Tobacco is grown in the district, while asphalt, petroleum, graphite, gold and copper are found in the neighborhood. It is connected by rail with Sagua la Grande on the north shore, and the port of Cienfuegos on the south. Santo Spiritus, in the Province of Santa Clara, has an important trade in the products of the region, principally sugar. It has rail connection with the port of Tunas on the southern coast. Trinidad, also in Santa Clara, is situated 45 miles southeast of Cienfuegos. The climate is healthful. It exports coffee and sugar through Casilda, 5 miles distant. Guantánamo, in Oriente, 10 miles north of the Bay of Guantánamo, exports coffee, sugar and lumber through the port of Caimanera, with which it is connected by rail. The naval base and coaling station of the United States is situated on both sides of the entrance to the bay about 20 miles from the town. Manzanillo, a port of the province of Oriente is situated at the head of the gulf of Guacanayabo, in a low and unhealthful region. It is regularly built and has a good harbor. It is the outlet for the products of the fertile Cauto Valley which include sugar, tobacco and lumber. It is the seat of a consular agent of the United States.

# DOMINICAN REPUBLIC

By Marrion Wilcox

## GENERAL DESCRIPTION

THE Dominican Republic, West Indies, a country which occupies the eastern and central portions of the island of Santo Domingo, or Haiti: bounded on the north by the Atlantic Ocean, on the south by the Caribbean Sea, on the west by the republic of Haiti, and separated by the Mona Passage from Porto Rico on the east. Its area is about 19,325 square miles.

The mountains — the centre and culmination of the Great Antillean uplift — form several cordilleras or roughly parallel ranges. The highest peak, Mount Tina (10,300 feet), is northwest of Santo Domingo city, and near the centre of the island are numerous peaks from 8,000 to 9,000 feet high. While the enormous mass of these mountains, occupying four-fifths of the island, renders much of the territory nearly inaccessible, between the ranges lie plains, some of which are wonderfully fertile, while others are without value for agriculture. Toward the north and west are the famous Vega Real and the sterile plain called Despoblado de Santiago; near the south coast the rich valley of Baní, which extends between the Nizao and the Ocoa; and in sequence the valleys of Azua, San Juan, or Antigua Maguana, Santo Tomé, Onceano, Hincha, Quava, and others; toward the east, extending even to Cape Engaño, is a region in which the *praderias* or *llanos* — valleys, meadows, or plains — are most common. Even the ridge of the Cibao Mountains sinks to a height of only 1,000 feet at its eastern end.

### Rivers and Harbors

The Ozama and Isabela rivers unite to form the port of Santo Domingo after receiving the waters of many smaller streams, such

as the Yavacao, the Monte Plata, and the Savita. The Haina, or Jana, which empties into the sea about 10 miles west of the capital, and the Nigua, whose course is still farther toward the west, enclose a very beautiful plain which was a source of wealth during the Spanish period. The Nizao flows southward between fields of sugar cane and meadows where herds of cattle graze. Other rivers are the Artibonito, Yaqui, Yuna, Naranja, and Magua. The coast-line, about 940 miles in extent, includes the Bay of Samaná — a well-sheltered harbor extending westward from the Mona Passage, its average width being 12 or 13 miles and its length more than 25 miles. It has been pointed out that this bay would accommodate the largest fleets, and that defensive works placed at its entrance would make it practically impregnable; its strategic value is certainly so great that it should be reckoned one of the republic's chief assets. Other ports are: on the north, Puerto Plata and Monte Cristi; on the south, Santo Domingo city and Azua.

### Geology and Mineral Resources

The geology of the island, as described by Blake, Marvin, and others, is similar to that of the eastern ends of Cuba and Jamaica. There are, according to Mr. Hill (see *Bibliography*), four principal formations: "the older mountain rocks, of Cretaceous and Tertiary Age, made up of igneous rocks and clays, mantled by gravels and crystalline limestone; the white limestones of Tertiary Age; recent alluvial formations; and the coast limestone of elevated reef rock. No recent volcanic rocks are known." (For the Antillean system, see CENTRAL AMERICA, p. 521). It has long been the custom to say that the mineral resources of the republic have been either neglected or exhausted; and it is, indeed, quite certain that, whereas the Spaniards obtained large amounts of gold and silver, especially the former, from the mines that were worked during the early years of colonization, recent reports made by American experts are not especially favorable with regard to these two metals. The fact, however, seems to be that gold exists quite generally, but not in paying quantities if we allow for high-priced labor. The profits of the old mines were won by the labor of native and African slaves. Copper, iron, manganese, platinum, tin, lignite, salt, and petroleum are found; and the analogy of the Oriente mining region in Cuba would suggest that the deposits of the first three metals deserve particular attention.

### Soils and Climate

The diversities of both soil and climate are greater than elsewhere in the Antilles. Thus, the Vega Real is fertile and well-watered; the Santiago plain, its western prolongation, is a desert. The soil of the western part of the plain of Seylo is gravelly, while that of the eastern part is composed of loams and clays. The country immediately surrounding Azua is barren; but the best sugar estates on the island are only three miles away — and the sugar-lands of no other West Indian island can quite rival in fertility the Dominican Republic's best. The climate of this country is healthful, like that of Porto Rico and other large islands in the West Indies. Trade winds blowing most of the year make the nights cool, and only a short part of the day must be called intensely hot, particularly in low-lying and sheltered regions. The dry season extends from the first part of December until June. During the other months the rainfall is as a rule abundant in the central and northern districts, especially in the northeast, which is probably the most fertile section of the entire country. In 1916 was recorded an abnormal rainfall for the southern section, when the precipitation from 1 October to 23 November totaled 22.67 inches, more than three times that of 1915 and about seven times that of 1914. By foreigners who have lived there and know the country intimately the Dominican Republic is not considered an unhealthful place of residence. The comparative freedom from cold-climate diseases is often overlooked in commentaries upon health conditions in the Tropics.

### Forests, Flora, and Fauna

Cedar, lignum vitæ, mahogany, and other cabinet-woods, as well as timber used in house- and ship-building, are taken from the forests; the most luxuriant growths, however, have no present commercial importance, because adequate means do not exist for bringing them from the interior regions to the coast. As in other parts of the Antilles, the forms of vegetable life are varied and of special interest, while precisely the reverse is true of the fauna.

## HISTORY

Columbus on his first voyage to America visited the north coast of the island and left a few of his men. These were killed by the natives; but the colony of Isabela, established on his second voyage, endured until the colonists were transferred to a more

healthful locality. The settlement on the south coast became eventually the chief city. Spanish settlements existed also at Concepcion de la Vega, Puerto Plata, Santiago de los Caballeros, and Bonao in the first decade of the 16th century. The cultivation of sugar cane began in 1506. Three years later Christopher and Bartholomew Columbus were imprisoned by Bobadilla in the citadel of Santo Domingo. The natives were set to work in the mines and fields; and very soon shiploads of Indians were being transported from other islands to replace those who died under the hardships of this forced labor. Subsequently negroes were brought from Africa for the same purpose, a considerable number of black slaves reaching the colony before 1522. There was a short period of prosperity; before the middle of the century, however, the most enterprising colonists were drawn away by the superior attractions of Mexico and Peru, and the country began to suffer from the attacks of English and French buccaneers, who established their headquarters on a small island near the northwest corner of Haiti. In the course of a century and a half the section west of the Despoblado, and now known as the republic of Haiti, was won for France. The Spanish government at the close of the 18th century abandoned the eastern section as well, the entire island passing, first, under French control; but soon afterward the successes of Toussaint L'Ouverture and Dessalines united west and east in one country, independent of the European powers and governed by the black revolutionists



Government House, Santo Domingo, Dominican Republic
(Courtesy of the Pan American Union)

of Haiti. Between 1809 and 1821 Spain again held the eastern section, and the old name Santo Domingo was revived with that limited application; but in the year last mentioned the inhabitants of the Spanish part of the island revolted. The eastern and western sections were united from 1822 to 1843, together forming the republic of Haiti. The final separation took place in 1844, when the Dominican Republic was established. Spain reasserted her authority once more for a brief period (1861–65); with that exception the many struggles through which the country has passed since 1844 have been due either to revolutions or to Haitian antipathy. In 1869 a treaty for the annexation of the Dominican Republic to the United States was negotiated during General Grant's presidency, but was defeated in the United States Senate. A revolution which drove President Báez into exile expressed the resentment of the San Domingoans when this failure was made known. Comparatively good order was maintained for a few years, beginning in 1890, but the most violent methods were again employed by political leaders in 1898–99, and continued in 1902–03. President Jiménez was forced by a revolutionary uprising to resign his office in May 1902. His successor, Vásquez, was driven from power early in May 1903, after severe fighting, attended with heavy losses. Señor Morales became President in 1904. Defaults in the payment of interest to European holders of Dominican bonds brought on a crisis of a character so threatening that the United States was induced to take charge of the collection and administration of customs dues, acting in the capacity of a trustee, for the protection of the people of the republic and of their creditors as well. In 1911 President Cáceres was assassinated, and a revolution necessitated the resignation of his successor in 1912. Archbishop Nouel served as provisional President for part of a year. The next administration, that of President Bordas Valdés, included such events as the bombardment of Puerto Plata on two occasions by government forces and the agreement (1914) secured by an American mediatory commission for the establishment of a provisional government, with Dr. Ramón Báez as President. Elections were held under the supervision of the United States. Juan Isidro Jiménez was inaugurated as President December 1914. In 1915 the presence of warships of the United States in Dominican harbors was required for the effectual suppression of a revolt. On 29 Aug. 1916 the armored cruiser *Memphis*, navy of the United States, was driven on the rocks of the outer harbor of Santo Domingo (the capital) by a heavy sea that came up suddenly.

## GOVERNMENT

The constitution vests the executive power in a President chosen by an electoral college for a six years' term. Under the present constitution, which went into effect 1 April 1908, the congress "designates a person to take charge of the executive office," in the event of the death or disability of the President. There is no Vice-President. The cabinet officers are the secretaries of Interior and Police, of Foreign Affairs, of the Treasury and Commerce, of War and Marine, of Justice and Public Instruction, of Agriculture and Immigration, and of Promotion (Fomento) and Communications. (*Pan American Union pamphlet*: see *Bibliography*). The Congress is composed of Senate (12 members, one from each province) and Chamber of Deputies (24 members, two from each province), both senators and deputies being elected by indirect vote, the former for six and the latter for four years. The judiciary consists of a Supreme Court (eight members, appointed for terms of four years), two courts of appeal, etc.

## EDUCATION AND RELIGION

Free primary instruction is offered by the communes, with the aid of the central government; the system including also superior technical and normal schools, and a professional school or university. There are about 40 newspapers. The state religion is the Roman Catholic. Religious toleration under "certain restrictions" is assured by the government's present policy of encouraging immigration.

## BANKING AND FINANCE

The legal currency has been the American dollar since 1900, and the value of the Dominican peso is given at present as one-fifth of the gold dollar. The banks are the Banco Nacional de Sto. Domingo and the Royal Bank of Canada, neither of these issuing bills as yet. The International Banking Corporation acquired the established banking business of Santiago Michelena in the Dominican Republic, with head offices at Santo Domingo City and several branches and agencies in other parts of the Island. The Michelena Bank was the depository for customs revenues

under the arrangement between the governments of Santo Domingo and the United States, and the International Banking Corporation succeeded to it in that capacity. There are also a few private bankers and merchants engaged in the banking business (Group Conference Report — Dominican Republic — in *Financial Conference Proceedings:* see *Bibliography*). The republic has two debts, both guaranteed by customhouse duties, one of $20,000,000 at five per cent interest, and the other of $1,500,000 at six per cent interest. The government's revenue is derived from customs, alcohol and stamp taxes, wharf-dues, posts and telegraphs, and civil registration. In the fiscal year 1915–16 total receipts were estimated at $4,468,000 and disbursements $4,406,567.

## COMMERCE AND INDUSTRY

In the south and west are the principal sugar plantations; the area of tobacco is the north and some parts of the uplands of the interior; coffee grows readily in the mountain regions, and in the district of Barahona its production on a large scale has begun; the cultivation of cocoa, like that of sugar cane, has increased rapidly since about 1885; cattle raising also receives a little more attention than formerly was the case; tropical fruits, especially bananas, flourish nearly everywhere.

### Exports and Imports

In 1915 the principal exports were: sugar, 102,801 tons; cacao, 20,223 tons; leaf tobacco, 6,235 tons; coffee, 2,468 tons; hides, 501 tons; beeswax, 213 tons; bananas, 327,169 bunches. Total value of foreign commerce in that year, $24,327,575 (imports $9,118,514 and exports $15,209,061). The principal imports of the republic are iron and steel, cotton manufactures, wheat flour, rice, meat and dairy products, oils, and wood and its manufactures. The distribution of foreign trade in 1915 was as follows: United States, imports $7,361,259 and exports $12,044,271; Great Britain, imports $630,923 and exports $84,366; France, imports $93,200 and exports $189,448; Germany, imports $95,317 and exports $5,644. In 1916, 315,700 bunches of bananas valued at $157,859 were exported. The exports reached $36,293,799 in 1916, of which the United States took 80.88 per cent. The imports of 1916 were $11,311,350, and of this amount 87.13 per cent was supplied by the United States.

## TRANSPORTATION AND COMMUNICATION

Besides the railway referred to above, which crosses two mountain ranges and connects Santiago with Puerto Plata, another line to furnish transportation from Samaná Bay to Santiago has been built to a point beyond La Vega. The railways of the republic have an extent of about 159 miles; private lines on large estates about 225 miles. There are 352 miles of telegraph, and 719 of telephone lines. The difficulties of communication between the various districts of the country, primarily due to the cordilleras, are in large part attributable to the great lack of good highways — without which peace will never be assured. There is steamship service between New York and Dominican ports, but the vessels are, as a rule, small and slow. There is also regular steamer service between Santo Domingo, Porto Rico and Cuba.

## ARMY AND NAVY

A rural guard (nominally 906 officers and men) supplements a military force numbering about 1,300. The government has six small vessels, four of which are revenue cutters.

## POPULATION

The number of inhabitants in 1916 was 710,000 (est.), or 36 per square mile. The Despoblado region — the nearly uninhabited district of high mountains, inaccessible valleys, and virgin tropical forests — comprises, roughly speaking, the central third of the entire area of the island, or one-half of the Dominican republic: it is the wide border-land fought over by the Haitians and the troops of the Dominican Republic. The people of the latter country, of blended Spanish, Indian, and negro blood — with the small proportion of white descendants of the Spanish colonists and foreign merchants — occupy an area that is actually much more restricted than a glance at the map would suggest.

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## POLITICAL DIVISIONS AND CITIES

The Dominican Republic is divided into 12 provinces. The principal cities with their populations are as follows:

### San Domingo

The capital city is situated at the mouth of the Ozama River, on the south coast. It is regularly built, but its streets are poorly paved. It contains many historic remains of the Spanish occupation. The surrounding district is fertile. The harbor is an open roadstead. In 1910 a jetty and sea wall was constructed at the entrance. A concrete wharf 1,400 feet long with 20 feet depth was completed in 1913. The city is the seat of a consul-general of the United States. Sugar and coffee are the chief exports. Cigars and cigarettes are manufactured. Copper is mined near by. Population estimated at 25,000.

### Puerto Plata

An important port situated on the north coast. The harbor is well protected and the export trade is very large, tobacco being the principal article of export. The port has steamer communication with the United States and Europe. It is the seat of a United States consul. Population 10,000.

### Samaná

The outlet for the products of the fertile Vega Real, is situated on the north shore of the bay of Samaná, 64 miles northeast of Santo Domingo. Cocoanuts, cacao, and bananas are the principal exports. Population 5,000.

### Santiago de los Caballeros

The capital of the province of the same name, is situated on the right bank of the Yaquí River, 24 miles south of Puerto Plata, with which it has rail connection. It is situated in the centre of the famous Vega Real, the most fertile and healthful valley of the Republic, is the largest interior town, and has a thriving trade in cacao, coffee, tobacco and hides. It has population of 12,000.

### Other Cities

Sanchez, at the head of Samaná Bay, is connected by rail with La Vega and Santiago. It is of considerable importance as a port. Cacao, tobacco and bananas are exported. Barahona on the south coast, at the mouth of the Juan River has a large trade in the products of the district. Bani, Nisao and Macoris, all on the south coast, are thriving ports.

# JAMAICA

By Marrion Wilcox

JAMAICA is the largest of the British West Indian Islands. It occupies the central position in the Antillean region, being nearly equidistant from Florida and the northern point of South America; from the mouths of the Orinoco and Galveston; from the head of the Gulf of Honduras, on the west, and St. Thomas, on the east. Its greatest length is 144 miles; greatest breadth, 49 miles; area, 4,207 square miles. The eastern part of the island has, as its most commanding feature, the Blue Mountain range (highest peak 7,360 feet). The centre and west, an elevated plateau of later geologic formation, show the characteristic Antillean limestone and, more perfectly here than elsewhere in the West Indies, the extraordinary results of exposure of that soluble material to the tropical rainfall. This upland plain, by the action of the elements, has been carved into hills, basins, called "cock-pits," 500 feet or more in depth, and much larger and deeper valleys, in which the plantations are situated, and from which the numerous streams often find their way to the sea by under-ground passages. One of these depressions, the Clarendon Valley (drained through a cañon), is 25 miles wide and 50 miles long; another, St.-Thomas-in-the-Vale, is circular in form, with a diameter of about 10 miles. Throughout the western half of the island such valleys occur, some with, others without, apparent drainage outlets. Coastal plains are most extensive on the south side, where the largest, the plain of Liguanea, has an area of 200 square miles. There are no navigable rivers, but a great number of small streams, pools, and thermal springs. In the limestone region there are many caverns, interesting on account of their

size, beauty, or the relics of the old Indian population which they contain. The mean temperature at the coast is very little more than 78° F.; that of the larger part of the habitable regions (1,000 to 3,000 feet above sea level) is about 73° F.; and at the altitude of 5,500 feet it is 60° F. On the plateau the annual variation is scarcely 9°; for example, at St. Elizabeth the maximum is 75° F. and the minimum 67° F. As a whole, the island has a pleasant climate. The average rainfall is 66 inches, the extremes being 100 inches on the high mountains and 44 inches at Kingston. The death-rate is 20.9 in 1,000; but this favorable showing, as compared with the other islands of the Antilles, is due much less to natural advantages than to the strict enforcement of local sanitary and quarantine regulations. The total number of inhabitants 31 March 1915 is estimated at 883,376. The census of 1911 gave as the number of whites 15,605; colored 163,201; black 630,181; East Indian 17,380; Chinese 2,111; not stated 2,905. The birth-rate is little less than twice the death-rate. The Jamaica negroes are fairly good laborers when well fed; the menial work of the island is performed by them, and they are regarded as cheerful, honest, and respectful servants. They have no share whatever in the government.

## Fauna and Flora

Jamaica has no native mammals. There are many species of lizards, including the large iguana, a few harmless snakes, and the slightly poisonous centipede and scorpion; in the lowlands mosquitoes, ants, and sand-flies are common; butterflies, fire-flies, and beetles, parrots, pigeons, water-fowls, and 20 different kinds of song-birds are enumerated. Edible marine fish are seldom caught near the island, but the streams contain a few fresh-water species. The flora is distinguished from that of the other Antillean regions by the total absence of the royal palm, and by the abundance of pimentos, or allspice-trees, which are rarely found elsewhere. Common trees are the ceiba, mango, wild orange, cocoa-palm, plantain, fustic, logwood, and cedar. Begonias, orchids, ferns, and grasses abound, except on the southern coast, which has a flora of the arid type, including the cactus, thorny acacias, etc.

## Agriculture

There are 1,012,128 acres under cultivation and care. Of this total 68,332 acres are devoted to pimento (allspice), but chiefly as a by-product on lands also used for stock-raising.

Since the abolition of slavery the production of sugar has fallen off very greatly. In 1805 Jamaica exported 151,000 hogsheads of sugar, and 5,000,000 gallons of rum; in 1897 the cultivation of sugar-cane constituted only 19 per cent of the whole agricultural industry; in 1914–15 only 31,727 acres were under this crop. Other products have gradually taken its place. Since the great frosts in Florida (1895–96) the exportation of oranges from Jamaica has been carried on profitably; since 1886 tobacco has been grown and cigars for exportation made on a large scale. Coffee from the Blue Mountain estates is of fine quality. The cultivation of cocoa has increased in recent years; ginger grows most readily in the rich soils on the mountains; and among the other exports may be mentioned lime-juice, tamarinds, nutmegs, a number of dye-woods, cabinet-woods, etc. Special instruction in agriculture is given at the schools, and agricultural and horticultural interests are encouraged by the government and active private associations. There are also 172,864 acres under guinea grass, 497,064 acres under common pasture, 85,000 acres planted with bananas, 92,240 acres with mixed crops. The banana crop is increasing in importance, the average annual output now reaching nearly 14,000,000 bunches, valued at about $5,800,000. The annual output of dyewoods is valued approximately at $440,000. The land is divided into small holdings, those of five acres and less numbering over 60,600 out of a total of 80,000 holdings. East Indian immigration was resumed in 1891, and since then the large estates have been increasing in number. Some of the streams are utilized for irrigating the sugar and fruit plantations, but because of their turbulence they are often the cause of disastrous floods. The soil is very fertile, being composed largely of sedimentary deposits from the white and red limestone formations which overlie the granite that forms the principal structure of the island. Agriculture is the chief industry, and nearly all others are dependent thereon, such as sugar mills, tanneries, oil presses, etc.

### Commerce, Railways, Roads, Etc.

The United States has the most important trade relations with Jamaica, furnishing a large part of the staple food supplies, and affording the best market for the island's fruit and sugar. Thus, in 1914–15, the total exports were valued at $14,522,665, the United States taking $8,847,310 in value; the United Kingdom $2,749,015, etc. Imports from the United States were valued at $6,105,755, and from the United Kingdom at $4,931,090.

There are 197½ miles of railway, 1,135½ of telegraph, including railway telegraph lines; 865½ of telephone lines; 18½ miles of electric and 8¼ of steam tramways. The system of public highways, extending into all parts of the island, is admirable; the roads are thoroughly well built and graded, have substantial bridges, and are kept in good repair. The total tonnage of shipping, entered and cleared, in 1914–15 was 4,306,848, of which 2,240,429 were British.

## Government, Education and Religion

The executive authority is vested in a governor, appointed by the king. He is assisted by a Privy Council and a Legislative Council (the governor, five ex-officio, 10 nominated, and 14 elected members). For the administration of local affairs there are boards elected in each parish. Admittance to the lower grades of the civil service is gained through competitive examinations. The government medical service has in charge 18 public hospitals. The police system includes more than 100 stations in different parts of the island; a force of more than 1,500 men (769 district constables); several prisons, reformatories, and industrial schools. There is a local artillery militia and rifle corps beside the garrison of regular troops. Fortifications and batteries are at Port Royal, Rocky Point, Salt Pond's Hill, Rock Fort, Fort Augusta, Fort Clarence, and Apostles' Battery. (See also below in connection with Kingston). The judicial department includes a high court of justice (9 members), circuit courts, and a magistrate in each parish. Public revenue and expenditure in 1914–15 were $4,900,850 for the former, $5,274,845 for the latter; and the public debt was $3,854,305. Public elementary schools in the same year numbered 696; average attendance, 56,333. There are four government training colleges for teachers; several endowed secondary, industrial, and high schools; a public lyceum and museum, with a valuable library, etc. Local examinations are held on the island by the University of Cambridge. In 1870 the Church of England was disestablished and disendowed on the island; in 1916 (' *Statesman's Year-Book* ') the churches and chapels were as follows: Church of England 234; Presbyterian 87; Roman Catholic 69; Wesleyan Methodist 138; Baptist 214; Moravian 29; Christian Church 24; Congregational 30; United Methodist Free Church 44; Church of Scotland 12; Salvation Army 20; Seventh Day Adventists 45; Jewish 3.

### Dependencies

The Cayman Islands, Turks and Caicos Islands, and the Morant and Pedro Cays are attached to Jamaica for administrative purposes. Of these, the first group lies in the Caribbean Sea, 180 miles northwest of Jamaica, and comprises Grand Cayman, 17 miles long, 4 to 7 broad; Little Cayman, 9 miles long and about one mile broad; and Cayman Brac, 10 miles long and 1¼ miles broad. The government is administered by a commissioner, and magistrates are appointed by the governor of Jamaica. The population of the Cayman Islands is about 5,800. The second group, Turks and Caicos Islands, situated nearly 500 miles northeast of Jamaica, geographically belongs to the Bahamas; but the governor of Jamaica exercises a supervising power over the local authorities (a commissioner and legislative board of 5 members). Area, 165½ square miles; population, 5,350; capital, Grand Turk; products, salt, sponges, pink pearl, etc. The Morant Cays and Pedro Cays are situated, respectively, about 33 miles southeast, and about 45 miles southwest, of Jamaica.

### Chief Towns

Kingston, the capital, has (last census) 57,379 inhabitants, a good water-supply and system of sewerage, well-lighted streets, large shops, a street-railway, etc. The town is, however, unattractive; residences of the officials and wealthy merchants are built in the suburbs. Public institutions are the museum, library, colonial offices, schools, churches, almshouse, penitentiary, asylum, and Victoria Market. Four miles away is the important naval station of Port Royal, headquarters for the British West India naval forces, and a strongly fortified place. Spanish Town, population 7,119, at one time the capital, is situated 15 miles west of Kingston. Port Antonio, on the northeast side of the island; Montego Bay, population 6,616; Savanna-la-Mar, Falmouth, Lucea, St. Ann's Bay, Buff Bay, Port Morant, Black River, etc., are distributed among the three counties of Surrey, Middlesex, and Cornwall.

### History

The native word from which we have the name Jamaica signifies "island of fountains." Names recalling the old Spanish occupation of the island are Montego (Spanish Manteca), Bog Walk (Spanish Boca del Agua), Wag Water (Spanish Agua Alta), and others. As a Spanish colony (1509–1655) Jamaica

was backward and of little consequence; the total population in the year last mentioned, when an English fleet captured it (1655), was only 3,000. One half of that number took refuge in Cuba. The settlers who arrived subsequently were peasants from Scotland, Ireland, and England, English subjects from the other West Indian islands, and Jewish traders from Minorca. Negroes were brought from Africa in great numbers; the old town of Port Royal being chosen as a convenient point from which to reship slaves to the other islands and the mainland. That town, once a place of great wealth and importance, was ruined by repeated calamities. "On 7 June 1692 happened that earthquake which swallowed up a great part of Port Royal," says Edwards, who explains that the town "was chiefly built on a bank of sand, adhering to a rock in the sea, and a very slight concussion, aided by the weight of the buildings, would probably have accomplished its destruction." Hurricanes in 1712 and 1722, and a conflagration 13 July 1815, completed the work of obliteration. Toward the close of the 18th century the island was occupied by large plantations, and was exceedingly productive. Before that time 610,000 slaves had been landed at Port Royal. The freeing of the negroes resulted in the abandonment of the island by many landlords. The effort to regain the lost prosperity through diversified agriculture has already been mentioned. In August 1903 a hurricane inflicted great injury at several points in Jamaica, and on the Cayman Islands. On 14 Jan. 1907 Jamaica was visited by a disastrous earthquake which ("in ten seconds," Treves says) almost entirely destroyed Kingston.

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# HAITI

By Marrion Wilcox

HAITI, a republic comprising the western portion of the island of Santo Domingo or Haiti. Its area is about 10,000 square miles, between one-third and four-elevenths of the total area of the island, the central and eastern portions of which are held by the Dominican Republic (q.v.), credited with 19,325 square miles, between seven-elevenths and two-thirds of the total. Adjacent islands subject to the Republic of Haiti are: La Gonave, commanding the approach by water to the capital; Tortuga Island, near Port de Paix; and Vache or La Vache, near Aux Cayes. The ports, beside that of the capital, Port-au-Prince, are Port de Paix, Cape Haitien, Gonaives, St. Marc, Petit Goave, Jeremie, Miragoane, Aux Cayes, Jacmel, and Aquin. Rivers are: The Artibonite, navigable for 100 miles, the Trois Rivieres, and the Grand Anse. The largest lake is Etang Saumatre, 22 miles long and 60 miles wide. (For the mountainous character of the country see Dominican Republic, p. 645). The climate, which in the highlands is temperate, but in the lowlands tropical — even more so than that of the Dominican Republic — favors the development of a varied and extensive flora; the fauna on the other hand is limited here as in many parts of the West Indies.

## HISTORY

At the time of the discovery of the north coast, 6 Dec. 1492, the island was divided into five states or cacicats. Thus disunited, the aboriginal inhabitants were rather easily conquered and rapidly exterminated. As the author of *Haiti, her History and her Detractors* (see *Bibliography*) has written: "The natives could

not stand the hard work imposed on them by the Spaniards; they died rapidly. Then began the importation from Africa of the black slaves. The Spaniards enjoyed alone their new possession until 1630, when the French adventurers known as buccaneers and freebooters, after occupying Tortuga Island, undertook the conquest of what became St. Domingue. From the intercourse between white and black, resulted in St. Domingue an intermediary class, the mulattoes. Most of the latter, on account of their relationship, were not slaves; and their black mothers, their relatives, and other slaves who could own enough money to redeem themselves, little by little obtained their freedom. These free colored people were not allowed any political rights. They at first did not resent it. They endeavored to become land-owners.

"When the French Revolution broke out in 1789 these freedmen of 'affranchis,' who by that time had accumulated wealth, asked for equality of political rights. The Assemblée Nationale granted them those rights. But the French landlords or "colons" were not at all pleased to have the colored people for their fellow citizens. A hard struggle began. The "colons" called the English to their rescue. At the end of the year 1793, the English took possession of a part of the island. The colony seemed lost to France, being occupied partly by the Spaniards, partly by the English, when Toussaint l'Ouverture espoused the cause of France. This extraordinary man, who, up to 40 years of age, was a slave, revealed himself as an able general and statesman. He succeeded in ridding the country of the Spaniards and ousted the English,



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The Public Market at Port au Prince, Haiti

who, after an occupation of about five years, were compelled to abandon their prey. The French government rewarded him by appointing him major-general and governor of the island. Later on, Napoleon I thought that Toussaint l'Ouverture was too powerful. In 1801 he appointed his brother-in-law, General Leclerc, governor of the colony, and sent a formidable army to reduce the authority of l'Ouverture. The latter, after a few skirmishes, surrendered and retired on one of his properties. Nevertheless, General Leclerc caused him to be arrested and deported to France in June 1802; to that end the French general resorted to treachery. The colored people took up arms against the French domination in September 1802 under the leadership of General Dessalines; and at the end of the year 1803, Rochambeau, who at the death of General Leclerc, took command of the French army, hard pressed in the city of Cape Haytien by black troops, was compelled to capitulate. On 1 Jan. 1804 Haiti proclaimed its independence, with General Dessalines as ruler. Slavery was abolished. Haiti was the first country to take that step. In 1822 the Spanish part of the island came under the administration of Haiti; but in 1844 seceded and established an independent government, known to-day as the Dominican Republic."

In Haiti, the record for the 67 years next following is little more than one long series of revolutions and usurpations, often mere contests between representatives of the mulatto and black elements. At the end of that period, during the turbulent administrations of Lecomte, Tancrède, and Oreste, prominence was given to demands for payment of arrears of the republic's foreign debt; and arrangements for the arbitration of French claims had actually been concluded when the government was overthrown by Théodore and Zamor (1914). The latter made himself President for a short time, until he was forcibly dispossessed by the former. On 7 Jan. 1915 a revolt against President Théodore occurred. Again, in April and July, revolution, the massacre of political prisoners, and the murder of President Guillaume, Théodore's successor, made necessary the landing of American marines to restore order. Continued revolutionary uprisings led to more active intervention, and on 16 Sept. 1915 a treaty was signed which provided for the establishment of a receivership of customs and supervision of Haitian finances, for a term of 10 years, under control of the United States, and the formation of a native constabulary commanded by American officers. Secretary Lansing (25 Aug.) plainly called the arrangement "this protectorate." It is not merely a financial protectorate, but has aspects of political con-

trol; and the treaty, "presently in operation in all its aspects under a *modus vivendi* signed by the American Minister and the Haitian Secretary of Foreign Affairs," awaited the approval of the Senate of the United States.

## GOVERNMENT

The constitution dates from 9 Oct. 1889. The National Assembly embraces two bodies, the Chamber of Representatives and the Senate, the former consisting of 99 members, elected by the people for three years, and the latter of 39 members chosen for terms of six years by the Representatives from lists supplied by the President of the Republic and a board of electors. The President, elected by the National Assembly for a term of seven years, can not be re-elected except after an interval of at least one term. His cabinet comprises six members, the Secretaries of Foreign Relations, of War and Navy, of Interior and General Police, of Finance and Commerce, of Justice and Public Instruction, of Public Works and Agriculture. The judiciary includes the Supreme Court, the "Tribunal de Cassation," and a number of district and municipal courts.

## EDUCATION AND RELIGION

Primary education is, by law, compulsory and free. The number of registered pupils in the five departments of the republic in 1914 was 46,018. There are 344 secular schools; a school of agriculture and domestic science for girls; several public *lycées;* schools of medicine and law; and private schools receiving allowances from the government. French is the language of Haiti, though the country people speak a patois called "creole." The religion of the people is Roman Catholicism. There are an archbishop, three bishops, and in every commune at least one priest. The papacy maintains a legate at Port-au-Prince, and Haiti has a minister accredited to the Holy See. Freedom of conscience is, however, guaranteed.

## INDUSTRY AND COMMERCE

The most important products are coffee, cacao, cotton and (among forest products) Campeachy wood, lignum vitæ, and fustic. The mineral resources are undeveloped. Deposits of gold,

iron, copper, and soft coal are among those that have been definitely located. The manufacture of articles for the home market gives employment to a relatively small number of the inhabitants.

### Exports and Imports

Principal exports in the year 1914 were: Coffee, 78,512,559 pounds; cacao, 6,688,084 pounds; cotton, 3,121,839 pounds; cotton-seed, 5,369,175 pounds; logwood (Campeachy wood), 54,618,800 pounds; fustic (yellow wood), 55,000 pounds; lignum vitæ, 3,090,020 pounds; honey, 1,264,690 pounds. The value of foreign commerce in that year was $18,928,351, imports, $7,612,792 and exports, $11,315,559 est. The distribution of foreign trade was given as follows: United States, imports $6,381,688 and exports $1,000,000; France, imports $345,190 and exports $5,000,000; Great Britain, imports $409,811 and exports $800,000; Germany, imports $338,004 and exports $4,200,000. Imports from the United States into Haiti in 1916 were more than 130 per cent greater than in the preceding year. In 1915 they amounted to $3,806,672 and in 1916 to $8,775,694, an increase of $4,968,392. This gain is due largely to continued peace throughout the country, which has enabled the people to work and be paid for their labor.

## TRANSPORTATION AND COMMUNICATION

Railways are: The line running from Cape Haitien to Grand Riviere, 15 miles; that connecting Port-au-Prince with Lake Etang Saumatre, 28 miles, and the Port-au-Prince, and Leoganes Railroad, 20 miles. Regular service from New York and from southern ports is supplied by three steamship lines. There is also steamship service between Haiti and Cuba. In 1880 Haiti became a member of the International Union. There are now 30 post offices in the republic. The extent of telegraph lines is about 124 miles.

## FINANCE, ETC.

The national debt (excluding the currency debt) amounted to $25,982,181 gold on 1 July 1914. The revenue, derived almost exclusively from duties on exports and imports paid in American gold, amounted in the fiscal year 1914–15 to 4,980,146 and 4,959,386 paper gourdes (value of gourde $0.33 in 1915; average for five years about 20 cents). More than one-half

of the expenditure is for the public debt. The monetary system has as its basis, theoretically, the gourde, which, in gold, would have the value of $0.965, currency of the United States. But no gold coins were ever minted, and the actual currency is paper which fluctuates in value and is irredeemable.

## POPULATION

The number of inhabitants, according to an estimate for 1917, is about 2,030,000; and the population of the capital, Port-au-Prince, was given as 90,000. Residing in the republic are about 500 white foreigners (Haitian citizens only can own real estate); otherwise the population consists of blacks and mulattoes, the former about 90 per cent of the total.

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## POLITICAL DIVISIONS AND CITIES

The Republic of Haiti is divided into five Departments, which are again divided into arrondissements.

### Port-au-Prince

The capital and chief seaport of Haiti, is situated on the west coast of the island. The region is unhealthful and the sanitation poor. The city is well laid out. It has a safe harbor, which is fortified. It is the seat of a United States consul. The population is estimated at 100,000.

### Other Cities

Aux Cayes, in the southern part of the Republic, is connected by rail with Les Cayes. It is an important shipping point for the products of the surrounding district, of which coffee is the principal commodity. It is the seat of a United States consular agent. Cape Haitien on the north coast is an important port and has a large trade in logwood, cedar, and other hardwoods, coffee, cacao and hides. The city is well laid out and has a population estimated at 30,000.

# VIRGIN ISLANDS

OF THE UNITED STATES

*FORMERLY DANISH WEST INDIES*

By Marion Wilcox

THIS brief statistical note is included in the present work for the reason stated in the article West Indies (q.v.). The group formerly designated as the Danish West Indies lies about 40 miles eastward of Porto Rico and comprises 50 islands or islets, only three of which are of sufficient size to be known, except locally, even by name. The three major islands of the group are St. Thomas, St. John, and St. Croix or Santa Cruz. St. Thomas lies nearly in a direct line east and west, and is about 13 miles long, with an average width of a little more than two miles. It is the most important of the group because of the fine harbor at Charlotte Amalie on the south side; moreover its location on the direct line of communication between European ports and the entrance of the Panama Canal, as well as the direct line for vessels plying between ports of North and South America, makes it a logical distribution centre for goods sent to the Lesser Antilles. Its distance from New York is 1,400 miles; from Colón 1,020; from La Guaira, Venezuela, 480 miles. The commerce of St. Thomas itself — although its imports constitute about 70 per cent of the imports for all three islands — amounts to less than $1,000,000 (average of the fiscal years 1915–16). The chief imports are foodstuffs and wearing apparel; exports, bay rum and a few hides. Charlotte Amalie is the only town on the island. Population of St. Thomas in 1917 about 10,600 or 10,700.

St. John — area 21 square miles — lies about four miles east of St. Thomas. In size and importance the least of the major islands, it nevertheless possesses a harbor at Coral Bay which, according to engineers, requires only development to make it a

rival of the better-known harbor at Charlotte Amalie. A very small acreage is devoted to sugar cane, but the chief industry is the growing of bay leaves and the distillation of the bay oil from which bay rum is made. The inhabitants, numbering less than 1,000 in all, are colored or of mixed blood, with very few exceptions.

St. Croix, the largest, wealthiest, and most thickly populated of the islands, lies about 40 miles southeast of St. Thomas and has an area of 84 square miles. Upon it are the two towns, Frederiksted and Christiansted, locally known as Westend and Bassin. Christiansted (population about 4,500) was the seat of the Danish colonial government, and the largest government house in the Lesser Antilles is located on the main street of Christiansted near the wharf. Frederiksted, though smaller (population about 3,000), is much more important commercially. The southern districts of St. Croix are well suited to the application of modern agricultural methods, and here are found the large sugar estates, as well as a considerable acreage of sea-island cotton. The roads are excellent and many of the sugar estates are connected with the factories by industrial railroads. The total population of St. Croix is given as 14,000, about 10 per cent being whites of unmixed blood.

The climate of these islands is healthful. For the year ending 30 June 1915 the records furnished by the director of the colonial agricultural experiment station in St. Croix show that the coolest weeks were 18 to 31 January, with a maximum temperature of 83° F. and a minimum of 65° F., and 8 to 14 March, maximum 82° F. and minimum 66° F. The hottest weeks were 31 August



Coal Carriers, St. Thomas

to 6 September, with 91° F. as maximum and 76° F. as minimum, and 7 to 13 September, with maximum 92° F., minimum 74° F. No records of rainfall are available for any of the group except St. Croix. On that island, the average annual rainfall for 63 years was 31.26 inches.

Steamers of the Quebec Steamship Company running from New York to British Guiana stop at Frederiksted in each direction. Their first port going south, as well as the last going north, is St. Thomas. Until the middle of 1914 eight steamship lines were making regular calls at St. Thomas. Monthly service between St. Thomas and Porto Rico was formerly maintained by a steamer of the Compagnie Générale Transatlantique. The provisions of the coastwise shipping laws, excluding vessels of foreign registry, now apply to this service. St. Thomas is headquarters of the West India and Panama Telegraph Co. (Ltd.), whose duplicate cables extend to the west coast of South America and connect at Jamaica with cables from the United States and Europe. Two newspapers are published in St. Thomas and three in St. Croix. Both of these islands are provided with telephone service. The largest amount of sugar that has been exported from the whole group in the last 15 years was recorded in 1903, when the total was 19,275 short tons. The estimate for 1916 was 16,000 short tons. The manufactures are bay rum, sugar, molasses, rum, concentrated lime juice, etc. There are two banks — the National and the St. Thomas Savings Bank. For the purchase of the Danish group, see WEST INDIES. Consult Brock, H. G., Smith, P. S. and Tucker, W. A., *The Danish West Indies* (Special Agents Series, No. 129, Washington, Govt. Printing Office, 1917).

# PORTO RICO

By Marrion Wilcox

PORTO RICO* is an island of the West Indies and a possession of the United States; the easternmost and smallest of the group of Greater Antilles; about 1,399 miles from New York (distance measured from San Juan), 1,000 miles from Havana, and less than 1,000 miles from Colón; lying between lat. 17° 50′ and 18° 32′ N. and long. 65° 35′ and 67° 15′ W. Its area is approximately 3,606 square miles, including the small islands Vieques and Culebra, in the passage between Porto Rico and the Virgin group, and Mona, between Porto Rico and Santo Domingo. The climate of the highlands, where the mean annual temperature is 72° F. or less, is very agreeable, although there is an excess of moisture at some points. The mean temperature at San Juan ranges in different years from 78° F. to 82° F., the maximum on record being 99° and the minimum 57° F. Compared with that of the other West Indian islands, Porto Rico's agriculture is remarkably diversified, the chief products being sugar, tobacco, coffee, cotton, tropical fruits, upland rice, etc. Statistics of production and export published in *The Americas*, December 1916, show that in 15 years Porto Rico's exports have increased eight-fold, and during the same period there has been a ten-fold increase in imports, "the growth both relative and proportional being overwhelmingly located in the statistics of the island's trade with us [the United States]. Under the helpful encouragement of the government, Porto Rico's production of sugar, coffee, tobacco, and fruits, and the successful marketing of them, have literally sprung up. In 1901, the island exported $4,715,611 worth

*Although not Latin American in the strictest sense, we include Porto Rico in the present survey for convenience, devoting to it, however, only this brief statistical note.

of sugar at $68.43 per ton. In the year ended 30 June 1916 it exported $45,809,445 worth at $107.79 per ton. In 1901, $1,678,765 worth of coffee at 13.7 cents a pound was exported; in 1915, $7,082,791 worth at 13.8 cents. Orange shipments valued at $84,475 in 1901 rose to $790,797 last year; pineapples, green and canned, and grapefruit, in 1901 included in $16,992 worth of 'other fruit,' have risen in the export record to $1,176,406 worth of pineapples, $122,876 worth of canned pineapples, and $837,014 worth of grapefruit." The value of Porto Rico's exports to the United States in 1916 was $60,952,768; to other countries, $5,778,805; total for that year, $66,731,573. The value of Porto Rico's imports from the United States in 1916 was $35,892,515; from other countries, $3,058,641; total for that year, $38,951,156. The government's estimate for 1 Jan. 1917 gave the number of inhabitants as 1,223,981. On 14 Dec. 1910 it was 1,118,012 (consisting principally of whites, mulattoes, negroes, and Chinese). It is to be observed that while the census as taken in 1887 shows a black population of 76,985, that taken in 1899 reduced the figure to 59,390. This is the only important island in all the West Indies the white population of which is so conspicuously in the majority. During the fiscal year ended 30 June 1915 the amount expended for educational purposes was $1,904,719.54. The educational system in 1917 embraced, besides the university, schools of five classes: rural, graded, continuation, high, and special. The total enrollment of pupils was approximately 170,000. Outstanding facts of the island's history are the following: Its discovery by Columbus, 19 Nov. 1493; appointment of Juan Ponce de León as governor 14 Aug. 1509; San Juan attacked by Sir Francis Drake, 22–25 Nov. 1595; from 1640 to 1780 expeditions equipped in Porto Rico for the long struggle with the buccaneers; Porto Rico deprived of representation in the Spanish Cortes, 1837; manumission of slaves, 22 March 1873; the capital bombarded by Admiral Sampson, 12 May 1898; American forces occupied Guanica 25 July 1898; protocol signed providing for the cession of Porto Rico to the United States, 12 Aug. 1898; on 8 Aug. 1899 the island devastated by a hurricane, accompanied by excessive rainfall. On 1 May 1900 civil government was inaugurated, having the following general features: As executive, a governor appointed by the President of the United States; Legislative Assembly, consisting of an executive council or senate appointed by the President (six Americans and five Porto Ricans), and a House of Delegates of 35 elected members; judiciary, including supreme and United States district courts.

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A T L A N T
A C U A D I L L A
M A Y A G U E Z
C A R I
Mona I.
Desecheo I.
Mona
INSULAR WEST OF
PORTO RICO
SAME SCALE
PORT


C O C E A N
SAN JUAN
GUAYAMA
HUMACAO
Pt. Maldonado
Pt. Vacia Talegas
Pt. Limon
Luquillo
Pt. Mulas
Pt. Puerca
Pt. Mulas
Pt. Medio Mundo
Pt. Figuras
Pt. Viento
Pt. Tuna
C. Mala Pascua
Pt. Guayanes
Pt. Candelero
Morro de Humacao
El Morrillo
Pt. Limon
Pt. Figueras
Pt. Medio Mundo
Pt. Puerca
Pt. Cascajo
Pt. Limon
Corona Reef
Caballo Pt.
Aranas Pt.
Playa Grande
Caballo Rk.
Cucaracha Rock
East Pt.
Tres Palmas
Tres Hermanos
Los Barracas Reef
Carbas Is.
Figuras Pt.
Guayama
Patillas
Arroyo
Yeguas Pt.
Yabucoa
Maunabo
Pt. Santiago Reg
Pt. Sandy
Pt. Limon
Pt. Medio Mundo
Pt. Figueras
Pt. Puerca
Pt. Cascajo
Pt. Limon
Santiago Reg
Pt. Medio Mundo
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Pt. Cascajo
Pt. Limon
Santiago Reg
Pt. Sandy
Pt. Limon

# LEADING INDUSTRIES

OF

# LATIN AMERICAN COUNTRIES

AND SPECIAL

# COMMERCIAL INFORMATION

[669]

# Trade Methods for Latin America

By Otto Wilson

THE manufacturer new to export trade who wishes to build up a South American business has to determine first of all what method he wishes to follow. This is a matter which no one can well decide for him. His choice of methods will depend on how much capital he can afford to spend before getting returns; on whether he expects to carry on his South American business rather ambitiously, or merely as a sideline to his domestic business; on the nature of the goods he has to sell, and the extent of foreign competition he has to meet; on conditions in the foreign and the domestic markets when he makes his plans; on a dozen considerations which probably apply only to his particular case. Moreover what will apply to one country in Latin America will not necessarily hold good for others — he must remember that the term "Latin America" covers sections radically different in physical, social, and commercial conditions, which sections have much more communication with oversea countries than with each other. There are, however, certain recommendations that may be made with regard to the various methods open to the exporter which will not be misleading if it is remembered that in each individual case they must be applied with discrimination and common sense.

A somewhat arbitrary classification of these methods may be made as follows: (1) Correspondence, with or without catalogues and other printed matter; (2) export commission houses; (3) traveling salesmen; (4) representation by native import houses; (5) representation by one's own branch houses in the principal centres. No one of these need be used alone although any one may be. Perhaps most firms that do a direct business of any consequence find that they can combine two or more of these methods very effectively. If the firm feels free to choose among them, however, one consideration should receive particular weight. In all export business, but in Latin American business particularly, it is the personal equation which counts heavily. The merchant in most parts of Latin America does not take to the idea of buying and selling impersonally, with regard only to the profit he makes out of each transaction, but considers that a commercial relation

ordinarily involves a certain social relation as well, especially when buying and selling have continued over some years. The more the foreign firm can give an impression of pleasing personality, therefore, the more likely it will be to obtain and retain the goodwill and steady business of a large clientele. This makes it desirable to have, whenever possible, a personal representative on the ground, who takes a part in the life of the community and makes his firm stand for something more than a letterhead and a far-away producer of a particular brand of goods. A permanent agency, manned by a staff which represents the selling firm exclusively, is therefore in general the most effective medium for establishing a line of goods on the Latin American market. Failing that a native agency or a force of traveling men, visiting the chief centres often enough to make permanent friends and acquaintances, is to be recommended. In case either plan is not practicable the export commission house or the correspondence method may be used.

### Correspondence

We may consider briefly some features of each of the methods mentioned above. With regard to the business-by-mail plan, it may be said that many firms interested in Latin America do not feel that they can take the risk of sending a traveling man abroad, and are of course perfectly justified in attempting to pick up what orders they can through letter-writing. Such orders are likely to be occasional and haphazard, but in many cases they open the way to a very substantial business. The first thing a firm should do that wishes to make connections in this way is to gather all the information it can regarding the section of the world in which it is interested. With regard to Latin America there has been a considerable volume of literature published in the last few years, and it will pay the man in charge of the export work to become acquainted with all the more substantial publications. Various bibliographies have been issued, but one in particular, by Peter H. Goldsmith, connected with the American Association for International Conciliation, (published by Macmillan) is marked by keen discrimination. The second step in preparing for the campaign should be to investigate what the Department of Commerce can do to assist in furnishing information, and particularly to subscribe to the daily publication called "Commerce Reports", which contains consular reports from all parts of the world. It also publishes daily a list of specific requests for American goods, and it will be well worth while to scan these "trade opportunities"

closely and write to the firms making the requests whenever the notices seem promising. This daily costs $2.50 a year, and can be subscribed to through the Superintendent of Documents, Government Printing Office, Washington. The Pan American Union, at Washington, maintained by the various republics of North and South America, a number of banks with Latin American branches, including the National City Bank of New York, the Mercantile Bank of the Americas, the First National Bank of Boston. The Commercial National Bank of Washington, and the Guaranty Trust Company of New York, and the export trade papers, are other sources of information that should be utilized. Various books of reference should be placed on the office shelves, including the *Exporters Encyclopedia*, the *Statesman's Yearbook*, standard directories of the merchants of the world, and the *South American Yearbook*. With this equipment the next step is to compile a mailing list, for which various sources can be utilized. The Bureau of Foreign and Domestic Commerce, of the Department of Commerce, has published a Trade Directory of South America, and also has on hand a large number of lists of names of importers of various lines, which can be obtained on request. The American consular officers, the names of which can be obtained from the Department of State, will send on request lists of firms in their respective cities, and the banks mentioned will also furnish what commercial information they can, although they naturally prefer to do this for prospective clients. With the mailing list compiled it will be advisable to write a series of form letters, work up attractive catalogues in Spanish and Portuguese, and if the article to be sold can be so presented, make up sets of samples, with prices, discounts, and terms. In place of elaborate catalogues concise pamphlets and folders may serve the purpose, but they should in all cases be well printed and preferably illustrated. Orders that result from the sending of samples and literature should receive the greatest attention, and every care should be taken to see that documents are properly made out, that invoices correspond in detail to shipping papers, that goods are so packed as to insure the maximum of protection with the minimum of weight. It should also be noted that all letters to South and Central America must carry five cents postage, and must be written in Spanish or (for Brazil) Portuguese.

### Traveling Men

The firm that makes the close study of Latin America suggested will come across many passages in the literature it peruses relating to the proper selection of traveling men for Latin

America, and criticising American firms for sending there poorly equipped and ill-educated representatives, with a personality anything but pleasing to the merchants they approach. This criticism has been repeated time and again, but it has probably not been too much emphasized. The traveling man sent to Latin America should by all means be a gentleman, in the sense that he is self-respecting, courteous, and well mannered, and possessed of a sense of personal dignity. Too many American salesmen have fallen very far short of this mark. It is on this account that the most successful salesmen in the United States are not necessarily the ones to be selected for Latin American work. The firm starting out on a Latin American campaign will do well to see that its representative, first of all, knows his line and is fairly well acquainted with business practices; second, possesses the qualities of a gentleman and has as good a general education as possible; and third, knows the language of the country to which he is going. With regard to the third qualification there has been much discussion, due to the general lack of properly trained and educated salesmen, whether it is best to select a man who speaks the language, Spanish or Portuguese, but who knows little about the goods he is selling, or an experienced salesman who knows the line but not the language. It would be unwise to dogmatize in deciding this point, but it is worth while to point out that the more solid qualities of a good salesman are recognized and appreciated the world over, and that of these qualities thorough familiarity with the article offered is better calculated to inspire confidence than almost any other. A superficial knowledge of a language can be made to go farther than a superficial technical knowledge, and in many lines, such as complicated machinery, a lack of acquaintance with the principles of the article may easily be disastrous. Fortunately, with the spread of the study of Spanish and Portuguese in recent years, the necessity for making this choice grows less and less.

The salesman once chosen should be allowed plenty of time and a liberal expense account. If he visits only the important centres of South America he can make the trip in six or eight months, but better results will be obtained by allowing him ten or twelve. If it is necessary to make the trip brief an itinerary including the following cities will doubtless be found sufficient: Pernambuco, Bahía, Rio de Janeiro, São Paulo, Brazil (São Paulo should in practically all cases be included); Montevideo, Uruguay; Buenos Aires and possibly Rosario, Argentina; Valparaiso and Santiago, Chile; Lima, Peru; Barranquilla, Colombia; and La Guaira and Caracas, Venezuela. If more time is allowed or if

the line is one for which there is a widespread demand, the cities of Pará, Rio Grande do Sul, Santa Fé, Bahía Blanca, Antofagasta, La Paz, Guayaquil, Bogotá, Cartagena, Puerto Cabello, and Ciudad Bolívar might be added to the list. For traveling expenses $12 a day is usually considered about the minimum, and if samples are to be carried the amount may run to $15 and $20. Travelers should be inoculated for typhoid before starting from the United States, should take along a medicine case with standard remedies, should be careful to sleep under mosquito netting in tropical countries, should drink bottled water in all but a few of the larger cities, and should avoid excesses of all kinds. A Department of Commerce publication entitled *Commercial Travelers in Latin America*, which gives the amount of licenses required from traveling salesmen in the various countries, should be obtained from the Government Printing Office at Washington and taken along for reference.

### Native Agencies

The selection of a firm to represent the exporter in each large centre of Latin America is a matter of such importance to his future business that as great care as possible is to be paid to it. The whole difference between success and failure rests on the matter of personnel, even more in the case of these agents, who can not well be supervised, than in the domestic end of the business. If the exporter plans to work through native importing houses in Latin America, as is very commonly the case with European as well as American houses, he will find it advisable to make the trip himself to South and Central America, for the double purpose of getting a personal acquaintance with the men who are to act for him and personal impressions of the field, and of leaving with these representatives, in turn, a personal impression of himself and his firm. If the head of the firm can not go he should at least send some one of his force in whose judgment he has confidence, and give him authority to conclude arrangements for agencies. He should determine in advance in what cities he will establish such agencies, what territory is to be allotted to each, what credit terms are to be allowed, and how the agencies are to be supported through the visits of traveling men or the distribution of literature. In deciding the first point the importance of adequate preliminary study will be made evident. Certain ground will better repay cultivation than other fields, and it may be best to concentrate on this ground and let the rest go entirely for the

time being. In general the River Plate region is perhaps the best territory for the average line and it will be well for the firm to consider first the establishment of its agency in Buenos Aires. Next comes southern Brazil, with the city of São Paulo as the working centre, from which northern Brazil can also be covered, although if it is possible to do so the firm will find it worth while to work this field from one or more of the large coast cities. On the west coast Valparaiso or Santiago in Chile and Lima in Peru are the logical sites for agencies, and on the north coast Barranquilla or Cartagena and Caracas should be selected. If agencies can not well be established in all these cities the firm should be careful about making the common mistake of assigning large territory to an agency in a far-distant city. The various sections mentioned are for the most part quite distinct from each other, and it is inconvenient to work two or more of them from a single centre. Before appointing any local concern as his agent the representative of the exporter will find it worth while to talk with the American consul and with the commercial attaché, in case one is situated in the city concerned.

### Branch Houses

The advisability of establishing in Latin America various representatives of the firm sent down from the United States, if such a course is possible, has already been discussed. As this is the plan which involves the closest relations with the parent house in the United States each firm will be in a position to solve the smaller as well as the larger problems as they arise and each firm will accordingly work out its individual salvation and feel its way to a successful working plan even more so than in the case of the other methods mentioned. The subject need not be elaborated on, except to point out one or two additional advantages resulting from this plan. One of these is that it makes possible a policy of extending credit to customers without running undue risks, and enables the firm through its representatives to watch the general credit situation, to make collections, to adjust claims with a minimum of friction, to transmit money at a minimum exchange cost, and to care for all the other financial details. The branch house can also, if necessary, carry stocks of goods or repair parts and accessories in warehouse so that orders can be quickly filled, and in the case of machinery can see to it that clumsy and inexpert handling does not give the firm's make a bad reputation on its initial trial. Most important of all, perhaps, it permits the carrying out of an energetic program for pushing the

firm's goods on the Latin American market such as is common in the United States, although of course by different methods. This obviates the necessity of waiting until the goods establish themselves on the market in the ordinary course of events, a process usually much slower in Latin America than in the United States. When competition again becomes keen between the United States and European nations this method will have still more to commend it because of the possibility of this positive and energetic action.

### Export Commission Houses

All these methods involve direct relations between buyer and seller. There is yet the indirect method of trading through the export commission house. The advantages and disadvantages of this method form a live subject of discussion, and the pros and cons are too many to be fully set out here. By far the greater part of our export trade, not only with Latin America but with the rest of the foreign field also, has in the past been carried on through these houses, and this is the accepted European method, followed particularly by the Germans before the war, but also by the English, French, and other nationalities. American business houses, less well organized and less accustomed to working in organization than those in Europe, when once they are actively interested in foreign trade do not take well to the idea of dealing through a middleman, and there is consequently a tendency to drift away from the commission-house method in American export trade. This has not gone so far, however, but that 60 to 75 per cent of our export trade, in the opinion of competent observers, is still carried on in this indirect manner. The chief advantage of using the commission house is obvious. It attends to all shipping details, assumes the credit risk and the insurance, sees that packing is adequate, and makes out the proper papers, a rather mysterious process to the uninitiated. It has, moreover, connections in foreign countries that are used to ordering their goods through commission houses, as the middleman's profit is considered to be more than made up by the services rendered in seeing that proper goods are supplied and that the shipments come forward with the greatest facility. It thus relieves the manufacturer of all export details, and the transaction is practically one in domestic trade. The chief disadvantage is that the manufacturer can not push his own foreign trade, and very often has no knowledge as to where his goods are going, as he simply fills the order from the commission house and takes its draft in payment. Many firms regularly

solicit business from commission houses, most of which are located in New York. A comprehensive list of these houses in New York and other cities will be found in a volume entitled the *Export Trade Directory*, published by the Johnston Export Publishing Co., 17 Battery Place, New York, and usually available in public libraries.

Whichever method or combination of methods is decided upon, it should be remembered that all of them except the last involve as close a study of Latin American conditions on the part of the heads of the firm as can well be made. Every method is good in proportion to the intelligence used in carrying it out, and in this case intelligence implies a knowledge of details of the field on the part of those directing the work. Details of geography, of the economic life of the various sections, of Latin American psychology, of shipping, transportation, finances, Government, and education of each country, are highly important for the export manager to know. A traveling man can not do very effective work if he feels, after remaining a week or two in one place and beginning to get acquainted with the trade, that a telegram is imminent ordering him to go on or to return home because the firm thinks he is using more time than it would take to get substantial results in the United States. Many American firms lost perfectly trustworthy customers of long standing at the beginning of the European war because they thought it necessary to shut down drastically on allowance of credit. A close knowledge of the field would enable the firm to determine as to just how much significance there might be in a report that Argentina had prospects of a bumper wheat crop or that rubber prices in northern Brazil had taken a decided drop. Matters of this sort, affecting directly the bases of economic life in a community and hence the purchasing power of the people, are as important factors in the foreign business of a firm as a disastrous fire or destructive tornado in a near-by region might be in the domestic field. In Latin American trade as in all other the greatest success will doubtless be achieved through attaining to a sure grasp of fine details without losing sight of the larger commercial considerations.

# Characteristics of Latin American Markets

By Otto Wilson

THE importance of a close and exhaustive study of the Latin American field by the new exporter has been emphasized time and again in the literature on commercial Latin America issued in the last few years. It has been pointed out that the secret of Germany's success in foreign trade has been the thoroughness with which her merchants familiarized themselves with every detail of exporting, and the lack of even elementary knowledge on the part of American firms has been cited as the chief obstacle to the general advance of our Latin American commerce. This is no doubt largely true, and an intensive campaign of education lasting over many years will have to be conducted if American exporters are to meet their future competitors in the Latin American field on even terms. Yet the individual merchant, admitting this and holding himself ready to take such steps as may be necessary, still may find himself at a loss to determine just what direction his studies should take. He knows his goods, he knows how to sell them and ship them, even to Latin America, and he wonders what else he must find out. It can be answered that he can not have too graphic an idea of the field in which his commercial operations are carried on — that a number of factors enter into the conduct of business which have never come to his attention because he has taken them for granted, yet which are different for Latin America from what they are for the United States. The following disconnected notes touch on a number of characteristics of Latin American markets, and will be valuable for what they suggest as much as for the actual information conveyed.

## Climate, Temperature, Etc.

The markets of Latin America are in general the markets of a temperate-zone population. Between Para, which lies practically on the equator, and Punta Arenas, the southernmost city in the world, there is a wide variation in average annual temperature. But a good part of the population of tropical Latin America lives at an elevation which affords a pleasant climate, while in the south there is comparatively little population between Punta

Arenas and the milder zone of Bahia Blanca and Buenos Aires and westward. In the latitude of Buenos Aires the mean temperature is about 64 degrees. The summers are hot, especially in the interior, but there is seldom or never extreme cold, snow being a rarity. Throughout South America artificial heating in winter is little known. In the larger cities modern heating devices are gradually being installed, and portable oil stoves are used to some extent, but as a rule the people keep warm in cold weather by putting on heavy wraps and furs, and by going to bed. The high price of fuel is in part responsible for this, coal in normal times ranging in price from $8 or $10 a ton in coast cities to $50 in Bolivia. For cooking charcoal is the almost universal fuel, this being obtained from local burners. Electricity is available in most parts of South America and the price is low.

### House Construction

The wooden or "frame" house so common in the United States is very seldom seen in any part of Latin America. Instead the brick house, covered with stucco and roofed with tile, is practically the standard in every country. These houses are seldom of more than two stories and in most cases of only one, and are usually constructed in the old Spanish style, with a courtyard in the centre. In the interior, the partitions are usually of brick and the floors of tiles or wood. For the more pretentious residences and public buildings stone is also a common building material. The poorest classes live in huts of adobe, or a combination of mud and twigs, covered with thatch or tiles. Corrugated iron is becoming very widely used, both for roofing and for siding, and some streets and sections of at least one large city present the spectacle of long rows of houses the main covering of which is this unattractive material. For the large business buildings in the more modern cities like Buenos Aires structural steel is common, as in the United States. There is, however, a general absence of the tall structures which are so prominent a feature of United States cities.

### Politics and Government

The impression common in the minds of North Americans a few years ago that Latin American countries were in a chronic state of revolution and unrest is fast fading away with a better acquaintance with conditions there. It is true that in many countries the established government does not rest on strong

foundations, and a *coup d'etat* is always possible when the administration becomes unpopular. The larger countries, however, have been for the most part free from such disturbances, and one country, Chile, claims never to have had a revolution, although there was a short civil war. Even in the countries where conditions are less stable, however, the word "revolution" does not usually imply the long period of disturbance and bloodshed with which it is commonly associated elsewhere. It usually means simply the overthrow of one faction and the triumph of another, the government being carried on along about the same lines which ever party or faction is in control. It has been the rule heretofore for the government to influence or control the elections, but the more progressive countries are gradually working away from this practice, and in recent years several elections have been held that expressed the bona fide wishes of the people. There is not yet the widespread interest in and discussion of political principles that obtain in northern democratically organized states, and politics remains in large measure personal and factional in character. The Latin American, however, is usually much interested in the current political topic of the time, and in places where good cable news is available follows international developments rather closely. It is as a rule advisable for the commercial visitor to avoid political subjects entirely.

## Amusements

Latin Americans are not much given to outdoor sports and games, and those that have been introduced are mainly the result of English influence. The English have brought their "soccer" football with them, and this comes nearest being the standard Latin American game. Baseball has been introduced by resident Americans and a good deal of local interest has been taken in it, but it has not as yet been much taken up except by Americans. There is little fishing for the sake of recreation, and hunting is also rather a profession than a sport. In Buenos Aires and a few other large cities horseracing is very popular, and hundreds of thousands of dollars are expended on the courses. There is a certain amount of bull-fighting and a great deal of cock-fighting, perhaps because the latter lends itself easily to betting and gambling, which are universal. As to theatrical entertainment all large cities and most smaller ones have their opera houses, sometimes costing hundreds of thousands of dollars to build. Some of these are representative of the best in Latin American architecture, and are most beautiful and ornate. The dramatic and musical

productions, however, which are given in them would rank as second or third rate with the metropolitan theatre-goer of Europe and the United States. The best singers appear regularly in Buenos Aires in operatic productions but few other cities are so fortunate. The moving-picture house is widely popular. It is a poor village that does not have its band, which plays in the evening in the public promenade.

### Use of Machinery

The Latin American, speaking generally, is not of a mechanical turn of mind. This fact, together with the scarcity of coal, has prevented the extensive development of manufacturing, and it is on this account that Latin America offers such a promising field for the sale of all kinds of manufactured articles. Except in a few lines there is little or no domestic competition. Brazil and Chile, and to a certain extent Argentina, have been fostering their manufacturing industries, but in few classes of goods have they become independent of foreign sources of supply. (An account of the lines manufactured, with some figures of production, etc., will be found in a publication by the United States Bureau of Foreign and Domestic Commerce entitled *South America as an Export Field*, Special Agents Series No. 81.) When machines are sent to Latin America it is highly desirable that some one from the home factory be on hand to teach the buyer how to set up and operate them, as otherwise a promising market may be eliminated, at least for several years, because of the failure of the first machine or two to work properly. In many cases the buyer has to depend on the printed instructions for guidance in setting the machine up, and these may be inadequate or printed in English or both, in which case there is danger that the parts may lie around unused until they are finally abandoned. In addition to providing complete and detailed instructions the shipper of machines (especially if it is out of the question to have a representative on the ground) should be most careful that all the minor parts are included in the box or crate with the larger parts, and that all parts are packed so as practically to insure that they will arrive unbroken.

### Commercial Customs

The fact that Latin America is the land of *mañana* has almost passed into a proverb, and impresses itself on the minds of most commercial visitors on their first tour. In Buenos Aires

and one or two other cities business is coming to be carried on with the dispatch to which Americans are accustomed, but over the rest of South and Central America buying and selling as well as other activities are marked by a deliberateness which more energetic foreigners find it difficult to understand. The Latin American, on his part, can not understand why there should be so much hurry in concluding some ordinary business transaction, his attitude being that if the matter can not be conveniently handled now there is no reason why it should not be postponed. The essential difference in attitude toward business matters arises from a fundamental difference in point of view, the North American merchant too often considering the achievement of certain business goals as his chief interest in life whereas the Latin American looks on his store or his plantation as a means of making a livelihood, to enable him to follow his tastes or pleasures in other directions. On occasion there is as a consequence a certain indifference to profits which seems odd to the trader from the north. A merchant, for instance, will often continue buying from a house which he has long patronized, even though the prices of others are manifestly lower, merely out of a feeling of personal loyalty and friendship. For this reason it is not at all sufficient to demonstrate clearly how the buyer of imported goods can make a handsome percentage on the transaction, as such argument is likely to have very little weight if the prospective customer is irritated into a personal dislike of the salesman. In domestic life the same principle of action holds true. A North American traveler tells how he and a companion, in going through Central America, were unable to visit an out-of-the-way place simply because they lacked the influence of personal friendship in dealing with the owners of the riding mules available. Yet they were in a town of several thousand people, with a number of public livery barns. It is necessary, in dealing with Latin Americans commercially, to remember constantly that the highest efficiency in salesmanship is here not a matter of speed, energy, or "drive", but rather an appreciation of the scale of values of the people and an ability to adapt oneself to their point of view.

# Mineral Industry of Latin America

By Richard Ferris
Of the Editorial Staff of the Encyclopedia Americana

IT is no exaggeration to say that the known mineral riches of Latin America exceed those of any other part of the globe so far explored. Since the advent of the Spaniards in the 16th century billions of dollars in silver have been taken from a very few mines in Mexico, and the same is true of Bolivia; and billions of dollars in gold have been mined at a few localities in Bolivia, and hundreds of millions recovered from the soil of Mexico, Peru, Colombia, Brazil, and the Guianas.

But Latin America does not have to base her claims to importance in the mineral world upon the almost fabulous records of her historic past. At the present day, with her treasures practically untouched, she is holding several world records in the mineral market. The entire supply of the world's bismuth comes from Bolivia; by far the largest supply of thorium is furnished by the monazite sands of Brazil; the unparalleled nitrate deposits of Chile supply practically all of the world's consumption of nitric acid, and quite all of its consumption of iodine; Colombia is the only considerable source of platinum outside of Russia; the tin production of Bolivia stands second on the world's tally sheets; Colombia supplies the world's demand for fine emeralds; Brazil is second only to South Africa in the production of diamonds, and for many years was first; the asphalt lakes of Trinidad and Bermudez supply the world.

In striking contrast to the prodigious wealth awaiting development in Latin America is the notably disproportionate enterprise with which it has been attacked. To be sure, there are many and grievous difficulties to be conquered, but they are far from being insurmountable, and when considered in parallel with the untoward climatic conditions in Alaska, seem almost negligible. The most serious hindrance is the lack of transportation, and, comparable with this, the scarcity of water and dearth of fuel must be mentioned. The preliminaries of new undertakings in the mineral country require the investment of very substantial sums, but these, as in the case of railroads, will serve to develop permanently the country they traverse as well as afford an outlet to the mining sections, and may confidently be expected to reap ever-increasing returns. However, the necessity for this large preliminary outlay is precisely

the reason why, generally speaking, the active mines in the whole region are those which have been in operation for centuries, and why the vast mineral treasure of the less accessible places is left to the exploitation of the individual native miner.

The mineral belt of Latin America is centred upon the great continental backbone which in the United States and Canada bears the general name of "The Rockies." In Mexico it is a broad zone traversing the entire country from northwest to southeast. Through Central America it is lower in altitude and with apparently fewer treasure spots. In South America, it appears again as the Andes, following along the entire western coast. Other smaller areas add their tribute, notably the coastal uplift of southeastern Brazil, know as the great Brazilian plateau. Glaciers, and other erosive agencies have scattered far and wide their grindings from the mother lodes, so that the territory available for profitable exploration and development is, broadly speaking, boundless; and, somewhere within the region may be found every mineral having commercial value.

The disturbed conditions in Mexico and the influences of the European war upon the mineral output of South America make it quite impossible to present an accurate survey of Latin America's potential production of any of the metals. The most that can be done is to show the actual production under these great disadvantages.

## Gold

In Mexico and Central America almost all the mining of gold is from the lode. In South America much the greater output is from the placers which for centuries have been accumulating fragments from lodes of unrivalled richness high up on the slopes of the Andes, and as yet undiscovered. The stores of gold and golden objects carried away from the Inca and Aztec chiefs by Pizarro and Cortes were doubtless the accumulations of many years, and in all probability were the product of the placers. Under the Viceroys a very large amount of gold and silver was obtained under a system of forced labor at no expense to the task masters. In Bolivia alone the great placer deposits have been worked since the middle of the 16th century, and are estimated to have produced $2,500,000,000. About the middle of the 18th century the leading gold producing country of the world was the southeastern highland of Brazil in the present State of Minas Greece. The workings were mainly placer but there were some lode mines. Some of the more remarkable yields of mining under modern methods are: Butters (Salvador), $4,138,050, on a capitalization

of $729,000; Dos Estrellas (Mexico), $10,335,000, on a capitalization of $150,000; Mexico Mines of El Oro, $4,458,745, on a capitalization of $875,000; Penoles (Mexico), $6,361,687, on a capitalization of $180,000; San Rafael (Mexico), $1,442,380, on a capitalization of $60,000; Sorpresa, $3,979,240, on a capitalization of $384,000.

The latest figures which are nearly enough complete to give a fair comparison of the relative gold production of the countries of Latin America are those of 1913, which follow:

| | |
|---|---|
| Argentina | $107,300 |
| Bolivia | 175,000 |
| Brazil | 3,570,000 |
| British Guiana | 879,000 |
| Chile | 731,000 |
| Colombia | 2,971,700 |
| Costa Rica | 415,000 |
| Cuba | 28,000 |
| Dutch Guiana | 571,100 |
| Ecuador | 406,500 |
| French Guiana | 3,050,000 |
| Honduras | 1,000,000 |
| Mexico | 20,500,000 |
| Nicaragua | 1,100,000 |
| Peru | 492,000 |
| Salvador | 1,245,000 |
| Uruguay | 111,000 |
| Venezuela | 623,500 |

Upon the breaking out of the European war in 1914, the demand for metals other than silver and gold lessened considerably, so that large numbers of men found their way to the fields yielding the precious metals. The effect was most marked in the yields of Colombia and British Guiana, the former increasing to $4,678,000 (nearly 60 per cent), and the latter increasing to $1,126,515 (28 per cent).

As to the immediate outlook it may be said there are enormous gold-bearing deposits on the summits and slopes of the Peruvian and Bolivian Andes, and this section is probably richer than the most productive area now being worked anywhere in the Western Hemisphere. Glacial moraines miles in extent show gold in paying quantities, and great alluvial "pampas" are equally rich. In addition, gold may be picked out of every stream flowing down to the lowlands. In the Nechi and Condoto rivers in Colombia dredges are at work, the yield ranging from 20 to 50 cents a cubic yard, though not yet in the richest section. Drills show that an average of 70 cents per yard prevails throughout a mass of 7,000,000 yards. In 1915 gold to the value of $1,720,000 was taken

by two dredges from the Nechi River. The mines of Chiquiaguillo are noted for the unusual size of the nuggets secured, the largest weighing 52½ ounces, of which 47 ounces were solid gold. In the form of lodes, gold is found both on the eastern and western slopes of the Andes, the veins often crossing the water courses, and showing an outcrop hundreds to thousands of feet above the base of the ravines. They are traceable for miles, from three to eight feet in width, and showing from one to five ounces of gold per ton. The whole country, and this is true also of Mexico and Honduras, is dotted with signs of ancient workings. In Honduras many of these diggings are being worked to-day with the most primitive appliances, and yielding surprising returns. In the Brazilian plateau the ore is showing richer quality as the mines are sunk deeper. The St. John del Rey mine is now the deepest in the world, having reached the depth of nearly 5,000 feet. This mine and the Ouro Preto combined have a steady output of about $233,000 a month. Formerly the gold output was mostly placer, and abandoned placer mines are very numerous in Minas Geraes. In French Guiana and Dutch Guiana some of the placer territory has apparently run out, though it is still considered profitable for dredges. With all its potential richness, however, the whole of Latin America is at present yielding only about one-fifth as much gold as is South Africa.

## Silver

Large as has been the total of gold produced by Latin America, the amount of silver has been many times larger. The records do not go back of about 1545, when Europeans found many silver mines yielding enormous quantities, and millions of dollars in silver ornaments, images, and objects of art. At the beginning of the 19th century the yearly silver output of Mexico was about $27,000,000; it is now about $45,000,000. The State of Zacatecas alone has produced nearly or quite $1,000,000,000 in silver. The most famous silver mine in South America is at Potosi, Bolivia, discovered in 1545. Fully $3,000,000,000 has been taken from this "silver mountain," and its yearly output is about $2,450,000. Another noted mine is, or was, that at Cerro de Pasco, now equally famous for its enormous copper production, the silver it now yields being what is found in with the copper. Another mine of fabulous richness is that at Valenciana, Mexico, which from 1760 to 1810 produced over $300,000,000. In Colombia several discoveries have been made of ore carrying from 500 to 750 ounces of silver to the ton. In Chile and Argentina, silver has been found on both sides of the great eruptive masses of the moun-

tain country, but as yet is little worked. The silver output of those countries is largely that recovered from argentiferous copper ores.

The latest authoritative figures for the silver production of Latin America are those for 1914, as follows:

| | |
|---|---|
| Argentina | $19,500 |
| Bolivia | 2,300,000 |
| Chile | 39,600 |
| Colombia | 194,300 |
| Ecuador | 12,500 |
| Peru | 4,618,400 |
| Mexico | 39,099,200 |
| Central America | 1,330,600 |

The total of $47,520,000 is about 41 per cent of the entire silver output of the world ($116,719,000) for that year. With the increase of copper mining in Peru, the silver output of that country has risen to about $6,000,000 annually; a part of this, however, comes from the argentiferous lead of the mine at Ancachs.

## Copper

For many years Mexico and Chile have been among the leading contributors to the world's supply of copper, Chile, indeed, having been at one period the largest copper producer in the world. Recently Peru has taken third place in Latin America's copper production, the mines at Cerro de Pasco, long famous for their great output of silver, now being claimed to include one of the largest known deposits of copper ore. From Venezuela mines $15,000,000 worth of copper have been taken in 15 years. In Bolivia also copper mining has developed in many localities, usually in connection with silver mines of long standing. In Brazil some large copper smelters are in continuous operation, and the increased price due to the European war has occasioned the pumping out of the old Cobre copper mine near Santiago, Cuba, which has stood full of water for a century or more. In Guatemala and Costa Rica many copper deposits are found, but few are worked, and these but feebly. Mexico's copper output, which in normal times is about 175,000,000 pounds annually, in 1915 had dwindled to 68,255,676 pounds. In Chile, however, the greatest development has taken place. Fully 2,000 copper mines are in more or less active operation, many of them by individual native miners in localities far removed from transportation facilities, only the richest findings reaching civilization in bags on the backs of mules or llamas. Recent explorations in the region of Chuquicamata have revealed the largest known body of copper ore in the world,

estimated to contain at least 700,000,000 tons of ore averaging 38 pounds of copper to the ton. And these figures are completely overshadowed by those of Peru, where the Cerro de Pasco mines are yielding 140 pounds to the ton, besides 11 ounces of silver and nearly one-tenth of an ounce of gold. For 1916 the exports of copper from Chile amounted to 146,605,900 pounds, and from Peru, 91,766,475 pounds. Under the stimulus of the war demand and the war prices, vigorous exploration is in progress throughout the whole of western South America, and a very large increase in output may be expected within the next two or three years.

### Tin, Platinum and Bismuth

In the world's production of tin, Bolivia holds second place, following the Malay states; the output for 1915 being 21,794 tons —about half that of Malaya, and over four times that of the long famous mines of Cornwall. In several instances former silver mines are now yielding tin ores, the silver having disappeared. Many rich lodes of tin ores have been located at high elevations in the Bolivian Andes, at places remote from transportation lines, and the claim is confidently made that this region holds the largest and most valuable tin deposits in the world. Formerly a large proportion of the tin output of Bolivia was won from placers, and while these are by no means exhausted, lode mining has been found more profitable. The tin exports of Bolivia now exceed a value of $15,000,000 annually. Within the past three or four years tin mining has been developed in Catamarca province, Argentina, and small shipments are reaching the market from that locality. As a matter of fact, tin is found in nearly all parts of Latin America where silver occurs, but the individual outputs are small, and do not appear in the records.

Next to Russia, Colombia is the most important source of platinum in the world. Its output in 1915 was about 19,000 ounces, and, as the Russian production had diminished one-half on account of the war, the Colombia production amounted to one-seventh of the world's output. From a value of $44 per ounce in 1914, platinum has risen to $100 per ounce in 1917, stimulating the mining of this metal to the fullest extent. The workings are generally in gold-bearing gravels, and some of these deposits have been found in Ecuador, and are being developed. Platinum in small quantities has also been found in the gold placers of Brazil. The crude platinum mineral, as it comes from Colombia has a very large admixture of either iridium or osmiridium, amounting sometimes to 30, or even 50 per cent.

Very nearly the whole of the world's supply of bismuth comes from the Bolivian mines at Tasna, and the Chorolque mountain. At the former locality the deposits constitute the largest known occurrence of bismuth ores. The metal is associated with tin and silver, and is nearly all sulphide. At Huayni-Potosi a considerable part of the large yield is native metal. Another locality which has been worked successfully, though in a small way, for bismuth is that of San Gregorio, Peru, and it is known that bismuth is plentiful in other Peruvian territory. For 1915 the Bolivian product was 568 tons, valued at about $1,071,000; the Peruvian output was about 25 tons.

### Coal and Petroleum

The retardation which the mineral industries of Latin America suffer through lack of cheap fuel has already been noticed. The condition is not due to the barrenness of the territory in this primal necessity, but to indifferent development of a natural supply actually abundant. All through the Andes region coal exists in large quantities, and in many localities wide seams are exposed to view for long distances along the slopes and in the sides of ravines, millions upon millions of tons being in sight. Some of these coal veins come down almost to tide water — as at Paracas and near Trujillo, Peru. Good coal is found also along the coast of Ecuador, but it is as yet undeveloped. It is difficult to understand this situation in the face of the fact that in Bolivia coal imported from England brings $40 per ton, and delivered at the Potosi mines, $70 per ton. Although Peru has almost unlimited deposits of both anthracite and bituminous coal, as well as lignite, the only considerable mining done in that country is by the industrial companies which consume it. About 700 tons a day is thus mined, most of it being turned into coke. In Chile, new deposits have been discovered recently in the Aconcagua region near Rio Blanco. In Southern Chile, coal is mined extensively at Lota and Coronel, at the former place the mines running out under the sea for more than half a mile. The yearly output of the three principal mines aggregates more than a million tons. As fuel, the Chilean coal is not of the highest grade, having about 80 per cent of the heating value of the imported British coal. The Lota mines have been worked since 1852. In Colombia, coal is found in many widely separated localities; good bituminous coking coal in the interior, and lignite beds near the coast. No attempt at commercial development has been made. There is more or less coal of fair quality in Venezuela, worked only for local purposes. In



A Section of the Zorritos Oil Fields, Republic of Peru
(Courtesy of the Pan American Union)

Mexico, coal is very plentiful, and the deposits in some cases are of great extent. At one locality in Coahuila a visible supply of 300,000,000 tons has been found. Perhaps the most serious result of the delay in coal development is that under this condition no great iron industry can be brought into being, and without this, the whole country must be at a disadvantage as compared with other sections. The coal production averages annually about 1,350,000 tons for Chile, 980,000 tons for Mexico, 300,000 tons for Peru and 16,500 tons for Brazil.

The petroleum beds of Mexico and Peru are important sources of fuel oil, the Mexican fields occupying fourth place in the records of the world output. The Mexican field at Tampico contains one of the most productive wells ever opened, yielding 105,000 barrels per day. The total capacity of the wells now producing in Mexico is not far from 600,000 barrels per day. The 1915 output is given authoritatively at 35,000,000 barrels. The only considerable active oil production in South America is in the Lobitos fields of Peru; their yearly output is about 3,500,000 barrels. In Bolivia, however, there is an immense oil belt 150 miles long and this continues over the national boundary into Argentina to Comodoro Rivadavia where the Government is pushing development. In Colombia, petroleum has been found in the upper Magdalena district, and at Santander an oil area 100 miles in length and 60 miles in width has been located. It contains many spontaneous oil springs. Another large field has been located in Venezuela near the city of Maracaibo, and in the River Limon district in several places near the asphalt lake oil oozes from the ground. There is also a small refinery in active operation at Santa Elena in Ecuador. On the

island of Trinidad the development has reached an output of 700,000 barrels annually. The Guatemala oil fields are controlled rigidly by the Government, and the output is small at present. With exceptional prospects for a great oil industry all Latin America, with the single exception of Mexico, cannot be said to have seen even the first stages of its possible development.

### Other Metals and Minerals

Foremost among the lesser mineral products of Latin America stands nitrate of soda, or "Chile nitrate." The only locality in the world where this invaluable salt is found in considerable quantity is the Atacama desert in northern Chile, an interior dry valley between the Coast ranges and the Andes. Associated with the nitrate (29 per cent) is sodium chloride (43 per cent), sodium sulphate (5 per cent), and calcium sulphate (4 per cent). A small proportion (1/10 of 1 per cent) of sodium iodate supplies the world with iodine — about 450 tons, valued at about $2,000,000, annually. These nitrate deposits supply not only the largest part of the world's nitric acid for industrial purposes, but also the bulk of the nitrogenous fertilizers for the world's agriculture. With the outbreak of the European war a great demand sprang up for Chile nitrate as a source of the ingredients of explosives, and previous exports were trebled to meet this demand. In 1916 the output of the nitrate fields was about 3,000,000 tons.

Iron, which has been well called the foundation of all modern civilization, exists in enormous quantities and of unrivalled quality throughout all Latin America, awaiting development. In the Brazilian plateau are billions of tons of ore carrying up to 50 per



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In the Nitrate District of Northern Chile

cent of the metal, but coal and transportation are lacking for its successful utilization. Great iron deposits are found also in Chile, and some ore is exported. At Tofo the explorers' drills have blocked out a mass of Bessemer-grade ore calculated to contain 100,000,000 tons. Here, too, a lack of coking coal is holding back development. In the province of Atacama deposits of iron ore aggregating 500,000,000 tons contain gold in the proportion of one ounce up to 16 ounces per ton. In Venezuela a start has been made, and a million tons of 67 per cent ore are being shipped annually. In the southeastern part of Cuba has been located an immense body of iron ore estimated at 300,000,000 tons, carrying one per cent of nickel. In 1915 Cuba shipped 830,000 tons of iron ore, and 200,000 tons of manganiferous iron ore. Other important deposits have been found in northern Mexico, Guatemala, Honduras, Colombia, and Peru.

Since the outbreak of the European war and the consequent advance in the price of antimony from six cents to 40 cents a pound, many antimony mines throughout Latin America, unprofitable at the old prices have gone into active operation. The effects are most marked in the increase of Bolivia's exports of ore (50 per cent) from 205 tons in 1914 to 19,786 tons in 1915. The antimony ores are found in the same localities as the tin ores, but in different veins. Mexico also has rich antimony deposits, and in normal times exported upwards of 4,500 tons of metallic antimony annually. Since 1911 the production has been greatly reduced.

About half the world's supply of borax is produced by Chile. The western range of the Andes, known as the Cordillera Occidental, traverses Peru, Bolivia, Chile, and extends into Argentina. Many of the peaks of this range were volcanoes, and at their bases, at elevations of 12,000 feet above the sea, are a succession of lakes whose waters are saturated with borax, which thickly encrusts their shores and forms a thick pellicle on the surface. Lake Ascotan in Chile is capable alone of supplying the whole world's demand for borax for many years to come. Bolivia and Peru have similar lakes, and in Peru are dry beds of lakes which formerly existed there, now a mass of borax and other salts.

Four-fifths of the world's supply of vanadium is produced by a single mine in Peru, which yields about 3,000 tons annually. The mine has much greater possibilities if there were a larger market for its product.

About one-tenth of the total production of tungsten is supplied by Latin America; Mexico, Bolivia, Argentina, and Brazil joining to make up their yearly output of 1,200 tons of 60-per cent ore.

In precious stones, Colombia leads the world with the finest of emeralds, of such perfection that they are valued at three times the price of perfect diamonds of equal weight. The mines at Muzo hold the record of having produced the largest emerald known, a stone weighing within two pennyweights of nine ounces. The diamond mines of Brazil have yielded some of the most famous of the world's jewels, notably the "Estrella do Sul" (Star of the South), which weighed after cutting 125 carats, and was sold to the Rajah of Baroda for a figure said to have been close to $15,000,000. Brazil holds the record for black diamonds with a stone weighing 3,150 carats. The diamond fields of Brazil promise profitable returns for years to come, and recent prospecting has revealed new possibilities in a ledge of diamonds in the matrix. Brazil is also rich in aquamarines, topazes, and amethysts. A large pearl fishery is in operation in the waters about Margarita Island, employing 1,000 boats and upwards of 3,000 persons.

The largest known supply of thorium exists in the monazite sands of the Brazilian coast, and to this must be added a recently discovered bed of gravel in the interior, estimated to contain not less than 60,000 tons of this scarce and valuable metal.

The great sulphur mine at Tinguirirca, Chile, holds another world's record as the richest sulphur mine known, much of its output being pure native sulphur. For years the Mexican mines at Aguascalientes and Ollague have been producing important quantities of sulphur.

The very important asphalt lakes of Trinidad and Bermudez, each covering an area of more than 1,000 acres, and together yielding a very large proportion of the world's total production of asphalt, is only one more testimony to the marvellous richness in mineral wealth possessed by Latin America. The manganese and zircon of Brazil, the lead and graphite of Mexico, the zinc of Guatemala, the molybdenum and mercury of Peru, the talc of Uruguay, may only be mentioned as of those for which space lacks for detailed discussion. Enough has been told to show that the story of the mineral wealth of Latin America has scarcely begun to unfold, and with so much already known, a mighty development must be looked for in the nearer future. Consult Ugarte, M., *El Porvenir de la América Latina* (Valencia 1911); Pan American Union, *General Descriptive Data* in 20 separate pamphlets, one devoted to each of the Latin American republics (Washington 1915–17); *Boletin del Instituto Geológico de Mexico*, Nos. 1–14 (Mexico 1895–1900).

# The Cotton Industry in Latin America

By James L. Watkins

THERE is no more inviting field in the world for the exploitation of the cotton manufactures of the United States than is to be found in the twenty Latin Republics of the Western Hemisphere. They lie almost at our doors, and those on the western coast have been brought much closer since the opening of the Panama Canal. They are bound to us, and we to them, by political ties that should make not only for mutual friendship but for mutual trade. Our trade with them should be of such reciprocal nature as to take whatever we possibly can of their products, and make it possible for them to buy whatever of our surplus products they may need.

Prior to the European war we enjoyed a comparatively small share of the import trade of these countries, and this applies especially to the cotton goods trade, but the war has demonstrated the fact that we can supply almost every requirement in this line and supplant to a large extent the European manufacturer.

We have made a good beginning. For instance the total value of our cotton trade in 1907–08 with all Latin America, and including the West Indies, amounted to $7,366,526, and in 1912–13 the year before the outbreak of war in Europe, to $15,506,377. This was a gain in the five years of $8,139,851, or 110½ per cent. But just two years following, 1915–16, the total exports reached the value of $38,381,074, a gain of $22,874,697, or a little more than 147 per cent. The statistics contained in the following table give the value of our trade with each country for the fiscal years 1907–08, 1912–13 and 1915–16. It is certainly a gratifying exhibit, every country showing a substantial gain, except Honduras, where there was a loss of 25 per cent. The most conspicuous gains (1913–14 — 1915–16) are shown in the value of the exports to Mexico, Costa Rica, Cuba, the British West Indies, Venezuela, Peru, Chile, Argentina, and Uruguay. Of course this is largely due to the total suspension of exports from Germany, and the interruption of the maritime trade of other belligerent European nations, all of which may be only temporary. But the American

exporter ought to be prepared to meet the fierce competition he must encounter when the war is over, and not part with a dollar of the trade he has acquired where there is any possibility of maintaining it.

VALUE OF COTTON GOODS EXPORTED FROM THE UNITED STATES TO LATIN AMERICA AND WEST INDIES

| COUNTRY | 1907–08 | 1912–13 | 1914–15 | Per cent increase 1912–13 1914–15 |
|---|---|---|---|---|
| Mexico | $782,966 | $1,064,895 | $4,891,956 | 359 |
| Guatemala | 329,067 | 427,445 | 578,579 | 35 |
| Honduras | 333,921 | 699,506 | 523,688 | |
| British Honduras | 26,479 | 131,448 | 188,017 | 43 5 |
| Salvador | 329,161 | 407,730 | 735,144 | 80 |
| Nicaragua | 246,222 | 349,401 | 518,651 | 49 |
| Costa Rica | 257,567 | 293,262 | 623,699 | 113 |
| Panama | 201,957 | 1,122,185 | 1,396,889 | 24 5 |
| Total | 2,507,340 | 4,495,872 | 9,456,614 | 110 3 |
| Increase, dollars | | 1,988,532 | 4,960,742 | |
| Increase, per cent | | 79 | 110 | |
| Haiti | 742,978 | 1,465,710 | 2,276,749 | 55 |
| San Domingo | 34,570 | 986,076 | 1,347,919 | 37 |
| British West Indies | 40,711 | 960,041 | 1,973,542 | 105 5 |
| Dutch West Indies | 2,563 | 104,531 | 109,556 | 5 |
| Danish West Indies | 3,648 | 28,302 | 34,092 | 21 |
| French West Indies | 655 | 14,550 | 93,024 | 520 |
| Cuba | 1,245,822 | 2,903,372 | 7,741,671 | 132 |
| Total | 2,070,947 | 6,462,582 | 13,576,523 | 110 |
| Increase, dollars | | 4,391,635 | 7,113,941 | |
| Increase, per cent | | 212 | 110 | |
| Colombia | 624,587 | 1,453,774 | 2,607,192 | 79 |
| Venezuela | 307,973 | 376,314 | 1,114,606 | 197 |
| Ecuador | 106,770 | 218,232 | 498,321 | 133 |
| Bolivia | 9,378 | 295,645 | 366,254 | 24 |
| Peru | 132,409 | 188,004 | 675,686 | 260 |
| Chile | 445,960 | 808,674 | 1,638,043 | 102 |
| Argentina | 685,207 | 538,421 | 6,495,724 | 1,107 |
| Uruguay | 97,084 | 146,344 | 870,613 | 303 |
| Paraguay | 222 | 3,261 | 16,360 | 401 |
| Brazil | 373,545 | 431,368 | 782,755 | 82 |
| Guiana | 5,104 | 87,886 | 282,383 | 221 |
| Total | 2,788,239 | 4,547,923 | 15,347,937 | 237 5 |
| Increase, dollars | | 1,759,684 | 10,800,014 | |
| Increase, per cent | | 63 | 237 5 | |
| Grand total | 7,366,526 | 15,506,377 | 38,381,074 | 147 5 |
| Increase, dollars | | 8,139,851 | 22,874,697 | |
| Increase, per cent | | 110 5 | 147 5 | |

## Cotton Production in Latin America

Cotton production in the Latin American Republics is reaching important proportions, the average crop now being 385,000,000 pounds in those countries. Brazil leads with an annual crop of 207,000,000 pounds. The Mexican crop averages 100,000,000 pounds, the Peruvian 62,000,000 pounds, and that of the West Indies 6,500,000 pounds. Venezuela, Haiti and Argentina produce 3,522,000, 3,122,000 and 1,230,000 pounds respectively. Among the smaller producers are: Colombia with 790,000 pounds, the Dominican Republic with 368,000 pounds, Nicaragua 257,000 pounds, Ecuador 250,000 pounds and Paraguay 51,000 pounds.

The following pages will give the latest reliable information concerning the cotton industry in the southern countries.

## Mexico

Among the countries of Central and South America Mexico ranks second in the production of cotton. The staple is cultivated on a small scale in many sections of the Republic, but the principal cotton lands are found in the States of Tamaulipas and Vera Cruz on the Gulf coast; Oaxaca, Guerrero, Sinaloa, Sonora, and Lower California on the Pacific coast; and Durango, Coahuila and Chihuahua in the North Central section. But at least 80 or 90 per cent of the crop is grown in the Central States of Durango and Coahuila, in what is known as the Laguna section. The Laguna lands are said to be of even greater fertility than those of the famous Nile Valley. No fertilizers are needed as there is plenty of nitrogen in the soil, and the Nazas River which irrigates the lands brings down the required phosphates and potash. The fertility of the soil is so great that one irrigation in August or September assures a large crop the next year.

There are no reliable statistics relating to cotton production in Mexico, but the normal crop is estimated at about 200,000 bales of 500 pounds. The unsettled condition of the country, however, has so greatly interfered with cotton cultivation that in 1914-15 the output was only about 145,000 bales.

Mexico exports very little raw cotton in ordinary times, but the closing of the mills in Torreon, Durango, and other interior towns has forced the cotton planters in the past few years to send a considerable amount of their staple to the United States. Besides these exports from 20,000 to 25,000 bales raised in the Imperial Valley are ginned in the United States from the seed cotton sent across the border.

According to the latest official figures there are in Mexico 139 cotton mills, containing 762,149 spindles and 27,019 looms. These mills in normal times consume about 162,000 bales of cotton, and employ 34,500 operatives, and the output was approximately 17,605,000 pieces of cloth and 5,002,000 pounds of yarn, valued at $26,548,000 (gold). Most of the mills are fitted for only the coarser grades of goods which find their best customer in the peon. The government levies a direct tax of 5 per cent on all mill sales. Most of the mills are small, the average containing 5,225 spindles and 182 looms. There are only 13 mills with over 10,000 spindles, the largest single mill containing 44,184 spindles and 1,675 looms. The largest group of mills are located in the States of Puebla and Vera Cruz, and in the Federal District. The most important of the mill towns are Puebla, Atlizco, Orizaba, and Mexico City.

Before the condition of the country became so unsettled the imports of cotton goods into Mexico showed a steady increase, the requirements of the people growing proportionately faster than the capacity of the local mills for supplying them. In 1908 the total output of the mills was valued at $27,357,000, while the imports were valued at $8,846,000, so that Mexico imported nearly one-fourth of its requirements of cotton goods. The Mexican tariff on cotton goods is among the highest in the world, being exceeded by those of Peru, Russia and Brazil. On some classes of cloth the duty amounts to three times its value abroad, especially on the coarser grades; the imports are, therefore, mostly of the finer grades of cloth, and such specialities as are not made in Mexico.

In 1913 the imports of cotton goods from the United States increased to the value of $1,065,000; in 1914, to $1,201,000; in 1915, to $2,261,000; and in 1916, to $4,892,000, and in the eight years from 1908 to 1916, $4,072,000 or 368½ per cent.

### Guatemala

No cotton is produced in Guatemala, but it contains the only cotton mill in Central America. This mill is owned and operated by an American and is located near Quezaltenango. It operates 6,000 spindles and 150 looms, and manufactures coarse colored cottons and unbleached sheeting, called "manta." The cotton used in the mill is mainly American, but it also uses some Mexican and occasionally a little Peruvian.

Guatemala is the largest importer of cotton goods in Central America, and cotton manufactures make up the largest single

import of the country, amounting to about 24 per cent of all imports and in some years to nearly a third. Of this trade previous to the European war England's share was about 53 per cent, that of the United States 24 per cent, that of Germany 18 per cent, and all other countries the remaining 5 per cent.

Of the total of $1,735,000 worth of cotton manufactures imported in 1913, the last normal year before the war, Great Britain supplied $778,000, the United States $504,000, Germany $337,000, and other countries $116,000. In 1914 Great Britain supplied $597,000, the United States $311,000, Germany $286,000, and other countries $95,000, of the total of $1,289,000 worth of cotton manufactures.

The statistics of the United States Department of Commerce for 1916 show exports of cotton goods to Guatemala valued at $578,579. The demand is mainly for goods that are staple articles in the United States.

## Honduras

Cotton is not cultivated in Honduras, though the cotton tree, which is indigenous throughout Central America, is found in all parts of the country. But the extreme height of the tree, reaching 20 to 30 feet, makes it impracticable to gather the fibre which is so very short that it is practically worthless for spinning. However, experiments have shown that both the soil and climate of Honduras are highly favorable to the successful cultivation of upland and sea-island varieties of cotton. There are no cotton mills in this Republic.

The United States almost monopolizes the trade of Honduras, both imports and exports, and just prior to the European war supplied the country with about 65 per cent of its total imports of cotton goods. The main imports in this class are prints, gray goods, colored and white goods. The United States has the bulk of the trade in gray goods and more than half of that in colored and dyed goods. England supplies most of the white goods, such as bleached muslins, fancy cottons, ginghams and drills. In 1908 our share in the cotton goods import trade was less than 66½ per cent, in 1911 it increased to about 72 per cent and in 1914 to nearly 80 per cent. In 1916 the total value of our trade in cotton goods amounted to $523,688.

Before the European war a part of the import business was done with European countries whose banks carried the mercantile classes, enabling the merchants to give long credit. Very little

business is now done except with the United States, and the business community has been adapting itself to the shorter term credits allowed by American exporters. Some American houses are allowing more liberal terms, and the establishment of a bank at Ceiba, operating with American capital, has been of material benefit in fostering closer trade between Honduras and the United States.

### Nicaragua

There is a limited area of Nicaragua that is suitable for growing cotton, and the cotton produced (from imported Mississippi seed) is said to compare favorably with American upland. The greater portion of the country, however, is too mountainous to raise cotton, and the area suitable for cotton, said to be not much greater than 50,000 acres, is confined mainly to the Western coast in the province of Chinandega, north of the port of Corinto. In 1908 a crop of 192,026 pounds was produced, in 1912 it increased to 256,344 pounds, but in 1914 the yield was only 12,562 pounds.

Cotton cloth (hand-made) is produced in Nicaragua only in small quantities, the amount imported practically representing all that is used. The cheaper qualities of cotton cloth, such as gray and bleached sheetings, prints, ginghams, and drills, make up the greater share of the textile imports. In 1908 the total value of imported cotton goods amounted to $909,000, and in 1913 to $1,022,846. In the latter year England supplied 55 per cent of the cotton cloth imported; the United States, 29 per cent; France, 7 per cent; and Italy, Germany and Spain smaller amounts. In 1914 the imports of cotton goods dropped in value to $828,000, and in 1915 to less than $600,000. In the latter year there were no imports from Germany, and the decrease in the imports of cloth from England amounted to approximately 80 per cent. The value of our exports in 1915 was $259,528, and in 1916 $518,651.

### Salvador

No raw cotton is produced in Salvador, nor are there any establishments for the manufacture of cotton. The imports of cotton goods into Salvador are listed as cotton yarn and thread, and as cotton cloth and other manufactures of cotton, and while there are no details as to the kinds of goods imported, the manufactures of cotton form by far the largest importations, being from 33 to 35 per cent of the total. This trade is practically

monopolized by Great Britain and the United States. These countries on an average furnish 60 and 30 per cent, respectively, of the total and all other countries 10 per cent. In 1907 the total value of cotton goods imported amounted to $1,153,000, of which Great Britain supplied $653,736, the United States $331,721, and all other countries $167,673, and in 1914 to $1,532,000, showing an increase of about 33 per cent. Of the 1914 total Great Britain supplied $847,724, the United States $462,491, Italy $105,231, and other countries $117,017. In 1916 the imports from the United States increased in value to $735,144.

### Costa Rica

Cotton is not cultivated in Costa Rica, and there are no establishments for its manufacture, and as there is practically no hand-manufacture in the country, all cotton wares consumed are imported. Of the piece goods imported, the United States monopolizes the trade in gray goods to almost as great an extent as England does in the sale of white goods. The English also have the largest share of the colored goods trade, while the United States has the largest proportion in the sale of prints. In 1913 cotton goods to the value of $828,948 were imported, of which $355,042 worth came from Great Britain, $243,802 from the United States, $124,699 from Germany, and $105,405 from other countries. The cotton imports in 1915 totaled $466,699, and of this $129,848 came from Great Britain, $266,333 from the United States, and $70,518 from other countries.

The imports of cotton goods from the United States in 1916 are valued at $623,699, an increase over 1915 of about 135 per cent.

### Panama

No cotton is produced or manufactured in Panama, and there is no hand-loom work except possibly on a small scale among the Southern Indian tribes. The share of the United States in the trade of Panama has steadily increased since the foundation of the Republic until now it buys nearly all that Panama has to sell, and supplies about 73 per cent of her requirements from other countries. Notwithstanding the favorable position held by the United States in the general trade of the Republic, for some time prior to the European war, England controlled more than half of the cotton goods trade, the share of the United States being about one-third, the remainder falling mainly to Germany. But a con

parison of the imports in more recent years, 1914 and 1915 for instance, shows that the United States is gaining at the expense of European countries, on account of the war, in nearly all classes of goods imported, Spain being the only European country that increased its exports in 1915. There are no recent available statistics showing the share of the United States and other countries in this trade as compared with that of other countries, but in 1915 the imports from the United States amounted in value to $913,391, and in 1916 there was an increase to $1,396,880, or 53 per cent. The main imports from the United States consist of bleached, unbleached, and colored cloths, knit goods, clothing and other wearing apparel, other miscellaneous wares, and a small quantity of yarn.

### Cuba

The proximity of Cuba to the United States, the peculiarly close political relations of the two countries, the wealth of the island, make Cuba of all the Latin American countries the most inviting field for the American manufacturer of cotton goods, for there are no goods of this character manufactured in Cuba, and the climate is such that cotton goods are used for clothing by both sexes, a large proportion of the population being dressed in cotton both winter and summer. And, yet, until the past few years, the United States had a comparatively small share of Cuba's imports of cotton wares.

Cuba's imports of cotton goods in the order of value are cloth, knit goods, lace, ready-made clothing, and thread. Of the cloths imported the largest takings are white goods, prints, colored goods, and gray goods. Prior to the European war, Great Britain supplied more than half the cloths classed as close-woven, followed by Spain, the United States, France, and Switzerland. Of loose-woven cloths Great Britain also supplied over half, followed by the United States, Spain and France. The bulk of the knit goods came from France, Germany and Spain, with only a small amount from the United States, laces from Great Britain, with smaller amounts from Germany, France, and Spain. Of the wearing apparel imported the United States furnished nearly half, with lesser amounts from France, Austria, and Germany. Cotton velvets were imported from Spain and Great Britain, tulle from the latter country and France, piqué from Great Britain, and passementerie from Germany, the United States, and France.

Prior to 1900 the exports of cotton goods from the United States to Cuba were a very small proportion of that country's

requirements, being a little less than 7 per cent of the total, but beginning with the independence of the Island, the proportionate share of the United States has increased materially, and in 1915 reached 37½ per cent of the total.

The cotton-goods trade of Cuba ever since 1900 has been undergoing a marked change, which is decidedly in favor of the American manufacturer. This change would be far more pronounced if the imports by countries for 1916 were available, inasmuch as the value of cotton goods sent to Cuba from the United States increased from $4,325,000 in 1915 to $7,742,000 in 1916, being a gain of $3,417,000, or 79 per cent in a single year. Of course this increase is mainly due to the war in Europe, but it only goes to show what the American manufacturer may do toward building up, if not practically monopolizing, a trade which logically belongs to the United States. This country buys four-fifths of Cuba's exports, and there is no reason why it should not enjoy an equivalent share of its import trade.

The following table gives the value of all cotton goods imported into Cuba from the leading countries during the years specified:

(BY THOUSANDS OF DOLLARS)

| Year | Great Britain | United States | Spain | France | Germany | All others | Total |
|---|---|---|---|---|---|---|---|
| 1907 | $4,155 | $1,390 | $1,665 | $1,084 | $675 | $289 | $9,258 |
| 1914 | 3,209 | 2,833 | 1,558 | 738 | 464 | 882 | 9,684 |
| 1915 | 3,293 | 4,325 | 1,519 | 486 | 157 | 1,406 | 11,186 |
| 1916 | ..... | 7,742 | ..... | ..... | ..... | ..... | ..... |

## Haiti

A very superior quality of cotton is grown in Haiti, but the crop is small and the quantity uncertain, owing to continuous revolutions and the unsettled condition of labor. In 1914 the exports of raw cotton amounted to 3,121,839 pounds, and in 1915 to 1,762,102 pounds, nearly all of which was shipped to Liverpool. There are no cotton manufactures, all the cotton wares used being imported. There are no statistics relating to the cotton goods imported from the various countries, but as the United States is now controlling about 90 per cent of the import trade, it may be assumed that most of the cotton goods used are obtained from this country.

In spite of revolutions the cotton-goods trade with Haiti shows a gratifying increase in recent years, the total value of such goods exported to that Republic in 1916 being $2,276,749, compared with $770,452 in 1915; $1,706,208, in 1914; and $742,978, in 1908.

### Dominican Republic

The cotton growing district of this Republic is in the northern half of the island, principally the Provinces of Monte Christi, Santiago, and Puerto Plata, and some little planting in the Provinces of Espaillat and La Vega. The Province of Pacificador also contains much good cotton land. The cotton grown is of the sea-island variety and commands a high price. The cultivation of cotton for export was begun in 1908, and for a time enjoyed considerable prosperity though the production was small. The largest yield was in 1912, but since then the crops have gradually lessened, and in 1914 only 368,439 pounds were exported, and 297,471 pounds in 1915.

The cotton wares used in the Republic are all imported, as there are no hand-looms or mills for making such goods. The total value of cotton goods imported in 1913 amounted to $1,880,211; in 1914, to $1,232,725; and in 1915, to $1,869,849. The values of the cotton goods imported from each country in 1915 were as follows: United States, $1,377,222; Great Britain, $390,192; Porto Rico, $62,716; Germany, $19,875; Spain, $15,517; France, $4,327. It will thus be seen that the United States controls the bulk of the cotton trade, its share being nearly 74 per cent of the total, while that of Great Britain is 20 per cent, the remaining 6 per cent being divided between Porto Rico, Germany, Spain and France. Our cotton-goods exports in 1916 are valued at $1,348,000.

### Virgin Islands, formerly Danish West Indies

In 1913 the island of St. Croix produced 778,000 pounds of sea-island cotton, but the following year the crop was almost a failure, amounting to only 62,000 pounds. The value of cotton textiles imported in 1914 amounted to $70,006, of which Great Britain contributed $49,838, the United States $13,798 and Germany, $4,614. The value of imports in 1916, from this country amounted to only $39,398. As the Danish islands now belong to the United States what little outside trade is carried on will no doubt soon fall to this country.

## Colombia

A small amount of cotton is grown in Colombia, which is confined to the Departments of Bolívar, Atlantico, and Magdalena. Most of the cultivated cotton fields lie along the banks of the Magdalena River, between Barranquilla and Colomar. There is also a small amount of cotton gathered from the native wild cotton trees. The staple of the cultivated cotton is $1\frac{1}{2}$ to $1\frac{3}{8}$ inches, grown from Mississippi seed imported every second year. It resembles sea-island cotton, but the fibre, which is long and silky, is said to be too fine for use in the local mills. This has resulted in the exportation of the Colombian cotton, and the importation of American cotton for domestic manufacture. In 1914 the Colombian cotton sold in the Liverpool market as high as 24 cents a pound. In 1907 the raw cotton exported amounted to 564,242 pounds, and in 1914 to 789,390 pounds. In 1915, owing to the European war, there were no exports, the small crop being consumed by local mills.

According to government statistics (1915–16) there are in Colombia 21 establishments devoted to the manufacture of "textiles and threads," with a combined capital of $3,530,400. How many of these are engaged in cotton manufactures is not shown, but there are at least four cotton mills of importance, one each at Cartagena, Medellin, Samaca, and Bogotá. They operate some 20,000 spindles and 200 looms, and make narrow gray sheeting, drills, and thread. Besides these there are four undershirt mills — one at Cartagena, another at Barranquilla, and two at Medellin. There are also hosiery machines at Cartagena and Buga.

Textiles form the largest single item of imports into Colombia, and of these cotton goods are by far greater than all others. In 1908 the total value of cotton goods imported amounted to $6,616,602, the value of the goods received from each country and the percentage share of each being as follows: Great Britain, $3,929,674, per cent 59.5; United States, $1,477,082, per cent 22; Germany, $425,540, per cent 6.5; France, $312,135, per cent 5; Spain, $135,084, per cent 2; all other countries, $337,087, per cent 5. In 1913 the value of cotton goods received from the United States was almost the same as in 1908, amounting to $1,453,774, in 1915 it dropped to $846,793, but in 1916 it was more than three times as much reaching $2,607,192. Of course this great increase was the result of the disturbance of trade caused by the European war. Colored cloths are the chief item of imports, followed by bleached and unbleached cloths.

## Venezuela

Cotton is grown to a limited extent in Venezuela, most of which is raised near Valencia and consumed by local mills. The staple is strong, and silky, and about 1⅛ inches in length. Besides the cotton of domestic growth consumed in the mills, a small quantity was exported prior to the European war, the total in 1908 being 396,885 pounds, which was mostly taken by France, some going to Germany, the Netherlands and the United States. But that the crops of very recent years have been too small to meet local requirements, is evidenced from the fact that within the past year the surtax of 25 per cent of the duty on imported cotton has been removed, and now the import tax is only 3.43 cents per pound.

There are four cotton factories in Venezuela, operating about 19,000 spindles and 500 looms. They employ 1,800 hands and consume about 6,250 bales of cotton annually. The mills are located in Caracas, Valencia, Maracaibo and Cumaná. These mills make gray goods, coarse wearing cloths, plain sheeting, and hosiery.

The cotton-goods trade is the most important in Venezuela, and one in which the United States appears to the worst advantage. Of the total value of this trade in 1908, amounting to $4,191,270, Great Britain furnished such goods to the value of $2,545,536; Germany, $681,530; and the United States $307,973, the latter's share being only a fraction over 7 per cent. Our share in this trade in 1910 was 7.7 per cent; 1911, 8 per cent; 1912, 10.3 per cent; 1913, 22.6 per cent; 1914, 12.5 per cent; and the first six months of 1915, 20.9 per cent. The items of most importance constituting this trade are in the order named, prints, drills, madapollam, undershirts, checks and plaids, gray shirting, white shirting, hosiery, etc. The imports of cotton goods has been considerably affected by the European war, the value having fallen from $3,907,726 in 1913, to $2,460,525 in 1914, and since 1914 still less than this as indicated by the imports of the first six months of 1915. The exports of cotton goods from the United States to Venezuela in 1915 are valued at $413,203, and in 1916 at $1,114,606, an increase of $701,403, or 170 per cent.

## Ecuador

Cotton is raised in Ecuador south of Guayaquil and also around Ibarra, north of Quito, but to what extent there is no available information. Most of the cotton produced is used in domestic

manufacture, and occasionally some little is exported. In 1908 7,317 pounds were shipped to the United States, and in 1914 120,000 pounds to Great Britain. The mills depend upon home-grown cotton for their limited supplies, the duty on raw cotton being so high (4.42 per pound) as to prohibit any imports.

Of the imports cotton goods are the most important, forming 24.5 per cent of total in 1908, the value of which was $2,453,900. Of this amount Great Britain contributed $1,573,243, or 64 per cent; Germany, $395,724, or 16 per cent; Italy, $147,020, or 6 per cent; the United States, $106,770, or 4.5 per cent; Spain, $103,268, or 4.5 per cent; and all other countries, $127,875, or 5 per cent, of which Belgium contributed $76,357; France, $34,820; and all other countries $16,698. The principal articles of import are white shirting, prints, gray shirting, knit underwear, cotton trousering, handkerchiefs, and hosiery. Cotton goods in general are dutiable at 5.06 cents per pound gross weight, but a few pay special rates. In 1915 the value of cotton goods imported from the United States was $146,854, and in 1916 $498,321, an increase of $351,467, or 240 per cent.

## Peru

Cotton has been one of the chief products of Peru since the time of the Incas, but only within the past 15 years has there been any attempt to increase the acreage and improve the methods of cultivation. Nearly all of the crop is grown on the west coast near the sea and within the valleys formed at intervals between the mountains and the sea by small rivers. The alluvial deposits in these valleys are rich in nitrogen and potash and are very productive. Cotton growing as a rule is very profitable, and hence the area is being increased, and with greater irrigation upon which all of the crops depend, and the gradual development of intensive farming the crop is steadily increasing, or was increasing until the European war. The very high freight rates and the limited demand in European countries has been very discouraging to planters, and the crops the past few years have fallen off considerably.

The cotton plantations vary in size from 500 to 5,000 acres, are owned principally by Peruvians, and the laborers are native Indians whose average wage is about 60 cents a day. Peruvian cotton may be divided roughly into five staple classifications: The so-called "full rough" cotton, coming mostly from the plantations in the Piura valley; the "modern rough," from the districts of Palpa and Cazea; sea-island, largely from Supe

mitififa, grown at several localities along the coast; and "Peru soft," locally known as Egypto. The rough Peruvian is the indigenous cotton of the tree-cotton variety, and has a strong, rough, wooly, crinkly staple, about 1⅜ to 1½ inches long, and its price is largely governed by the price of wool as it is used to mix with wool in the manufacture of "all-wool" underwear, hosiery and cloth. The crop of long-stapled sea-island and mitififa, grown from imported sea-island and Egyptian seed, is small as the staple and quality are found to deteriorate with a consequent lowering of price, which to some extent is governed by the price of Egyptian cotton, a variety it closely resembles. The "Peru soft" or Egypto (a misnomer for it is grown from American upland seed) is much more extensively cultivated than even the native cotton. In the United States it is an annual, in Peru it is cultivated as a biannual, though the second year's crop is about 20 per cent less than that of the first. Its staples runs from 1⅛ to 1¼ inches, and its market value is governed by the price of American upland.

In 1902 the cotton crop of Peru was 106,914 bales; in 1905, 139,609 bales; in 1909, 315,640 bales; in 1913, the largest crop ever made, 364,706 bales; in 1914, 346,422 bales; and in 1915, 318,071 bales. The average bale weighs about 170 pounds. The United States consumes annually about 5,654,500 pounds of Peruvian cotton. In 1915–16 the imports amounted to 5,454,000 pounds, but the bulk of the cotton exported from Peru goes to Liverpool. In 1913 the United States exported to Peru cotton goods to the value of $198,331, and in 1916 to the value of $675,686, an increase of $477,355, or 242 per cent.

There are seven cotton mills in Peru, five of which are located at Lima, operating 67,900 spindles and 2,293 looms, the capital invested being $2,057,000. These mills manufacture mostly gray sheetings and shirting, gray ducks, ticks and drills, and gray and colored checks and striped cloths; also blue drill, khaki drills and trousering, ordinary grades of white flannel, and white drills and towels. Outside of the domestic consumption one of the best markets for these goods is Bolivia, and a small quantity is also taken by Chile. The mills consumed 41,177 bales (Peruvian weights) in 1913, 32,353 bales in 1914, and 44,118 bales in 1915.

### Bolivia

Cotton is not grown in Bolivia, nor are there any manufactures of cotton. The imports of cotton goods average in value about $1,000,000 a year, and are largely confined to a few standard lines. The greatest demand seems to be for gray sheetings, white

shirtings, printed flannelets, and cotton trouserings or cassinettes. In most South American countries Great Britain has controlled about half the cotton goods trade, but prior to the European war Germany had nearly half the Bolivian trade, Great Britain only about a fourth, the remainder being divided between the United States and Peru, with a small amount going to Italy and France. Most of the gray sheeting used is from the United States and Peru, with a small amount from England. This is the only line in which the United States is prominent in this market, the imports consisting almost wholly of Massachusetts shirtings. Besides these about the only American cotton goods used are small amounts of drills, duck and ticking. The trade in white shirtings is monopolized by Great Britain, and that in printed flannelets was done mainly with Germany, some of the finer grades coming from Great Britain. The cheap cotton trouserings or cassinettes were furnished almost entirely by Germany, as were corduroys, used not only for riding trousers but by the poorer white population for suits, on account of their stout wearing quality.

No detailed statistics of the cotton trade of this Republic are obtainable, and hence the proportionate share of the United States is unknown. However, our exports of this class of goods for the fiscal year 1915–16 shows an appreciable gain over the previous year, particularly in bleached and unbleached goods. In bleached cloths the increase was from 110,806 yards to 1,200,944 yards and in unbleached cloths from 1,934,264 yards to 3,069,619 yards, while the value of all cotton wares increased from $146,597 to $366,254.

### Chile

No cotton is grown in Chile, but there are three cotton factories of some importance, operating about 5,000 spindles and 40 looms, besides there are seven or eight knitting mills. These mills make shirts, underwear and hosiery, and a small quantity of miscellaneous wares.

Among the South American countries Chile ranks third as a buyer of cotton goods, its annual imports for some years prior to the European war averaging over $11,000,000 in value. Cotton goods form the largest single item of the imports, the value of which amounted to $11,442,939 in 1905, to $13,262,180 in 1907, to $12,214,864 in 1909, to $9,025,176 in 1913 and, due to the war, to only $6,324,368 in 1914. There are no very recent statistics showing the share of each country in the imports.

Among the principal imports, in the order of value, are colored and dyed goods in general, white shirting, knit goods, prints, drills, yarn, gray sheeting, osnaburgs, sewing thread, flannel, passementerie, lace, oxfords, bed-covers, handkerchiefs, ticking, cotton waste, and cotton blankets. The trade of the United States, at the period named, consisted mainly of osnaburgs for making flour sacks, flannel, gray sheeting, sail duck, white goods and yarn. The value of the cotton goods exported from the United States to Chile in 1914–15 was $639,031 and $1,638,043 in 1915–16, an increase of $999,012, or 156 per cent. This increase was mainly confined to bleached, unbleached, and colored cloths the exports in 1914–15 being 6,780,257 yards, as compared with 12,211,220 yards in 1915–16.

### Argentina

Cotton cultivation has been undertaken on a small scale in Argentina for some years. There are large tracts of land in the northern and northwestern section of the country that are well adapted for cotton, but for lack of experience, capital and sufficient labor, the crop has made little progress. The provincial governments and various agricultural societies have tried to encourage cotton growing by offering prizes at agricultural fairs, and in 1913 the Province of Corrientes granted partial exemption from taxation, and a bounty for picking cotton. Most of the cotton grown in Argentina comes from the Territory of Chaco, where European farmers are doing most of the planting, employing native Indians and peons from Paraguay and the Province to pick the cotton. There are also small areas devoted to cotton in Córdoba, Santa Fé, Corrientes and several other Provinces. In 1907 the exports of raw cotton amounted to 116,767 pounds; in 1912 to 1,230,000 pounds; in 1913, to 750,000 pounds, and 1914, to 609,500 pounds.

There is one cotton-spinning mill in Argentina with 9,000 spindles, and five cotton-weaving mills with a total of 1,200 looms. The spinning mill has a capital of $850,000, and consumes from 650,000 to 750,000 pounds of raw cotton annually, most of which is imported from the United States, and small quantities from Brazil and Peru. The capacity of this mill is about 1,100,000 pounds of yarn. The five weaving mills have a capital of $732,000 and employ 1,415 operatives. The production of the mills is figured at 8,000,000 to 10,000,000 yards annually, comprised mainly of duck, canvas, gray sheeting and shirting, and a small amount of colored goods. There are also forty-three knitting mills with 650 machines, with a yearly production of about 4,000,000 pounds.

The most important single item imported into Argentina is cotton goods. Of this trade prior to the European war Great Britain controlled about half, the remaining half being competed for by Italy, Germany, France, Belgium, the United States, Spain, and other countries. As indicating the share of each country in this trade the imports in 1908 is a fair illustration. The total value of the cotton goods imported amounted to $27,119,134, and of this Great Britain furnished $13,428,662, or 49.5 per cent; Italy, $5,403,737, or 20 per cent; Germany, $3,731,172, or 14 per cent; France, $1,623,565, or 6 per cent; Belgium, $916,788, or 3 per cent; the United States, $685,207, or 2.5 per cent; Spain, $663,266, or 2.5 per cent; and all other countries, $666,737 or 2.5 per cent.

Piece goods form the bulk of the cotton manufactures imported, and most of these are classed as colored goods, which include both goods made with dyed yarn, usually known as colored goods and piece-dyed goods. Other piece-goods imports, in the order of their value, are printed, bleached, and gray goods, especially of cotton and wool mixed cloths for trousering, women's skirts, etc. In addition to piece goods the other chief imports of cotton manufactures are cotton yarn, hosiery, lace handkerchiefs, bed covers, blankets, cotton flour bags, haberdashery, duck and canvas, ready-made clothing, ribbons and tapes, and towels. Heretofore the trade of the United States was confined chiefly to cotton flour bags, yarn, duck and canvas, with a small amount of ready-made clothes, gray drills, madapollams, and candle wicks. But since the beginning of the European war this country has made extraordinary gains, especially in the exports of bleached, unbleached and colored cloths, knit goods, and yarns. The increase in the value of each of this class of goods in 1915–16 as compared with 1914–15 is as follows: bleached cloths from $11,612 to $225,716; unbleached cloths, $178,179 to $578,663; colored cloths, $14,344 to $796,786; knit goods, $169,572 to $1,686,512; yarns, $475,528 to $2,183,809, while the total of all cotton goods increased from $1,064,265 in 1914–15 to $6,495,724 in 1915–16. This shows a gain in one year of $5,431,459, or 510 per cent.

### Paraguay

There is considerable land in Paraguay very productive and well adapted to cotton raising, but the lack of labor, the lack of a home market, high freight rates abroad, and the fact that other crops pay better have tended to restrict cotton production. What little cotton there is made is grown partly from the indigenous tree

cotton, which bears for several years without replanting and yields a strong fibre about 1¼ inches in length, and partly from imported American seed which gives a fibre 1⅛ inches long and is whiter in color than the indigenous cotton. Prior to 1870 about 43,000 acres were cultivated in cotton. Since that date, as a result of the war in which the country had been engaged, cotton culture has been neglected. In 1905, 18,893 pounds were exported; in 1906, 13,018 pounds, and in 1907, 19,092. The total crop during these years averaged about 51,000 pounds. Experiments during 1915 were carried on with American seed and under the direction of an experienced American planter, the results being very satisfactory. There are no cotton manufactures in Paraguay and prior to the European war the cotton goods trade was divided between Great Britain, Germany, Italy, Spain and France, the rank of each being in the order named.

### Uruguay

Cotton is not grown in Uruguay, and there are only two or three small cotton-weaving mills with some 300 looms. There is also a small, but increasing number of knitting machines for making hosiery. The products of the weaving mills consist of plaid flannelets, known as tartan, a good grade of khaki, Turkish towels, common stripes and checks, and a small amount of fancy goods. There are no available statistics of the imports of cotton goods or the origin of the same, but a recent report (27 Jan. 1917) of the United States Department of Commerce shows that the imports of cotton goods for the first six months of 1916 were valued at $967,933. The value of cotton goods exported to Uruguay in 1914–15 from the United States amounted to $126,054, and in 1915–16 to $870,613, an increase in value of $744,559, or 590 per cent. The value of bleached, unbleached and colored goods increased from $20,279 to $145,307; knit goods from $25,609 to $377,810; and yarns from $14,444 to $133,067.

### Brazil

It has been estimated that there are sufficient and available lands in Brazil to produce 40,000,000 bales of cotton; and yet, compared with such possibilities it contributes a very small share to the cotton commerce of the world. The crops fluctuate from year to year, but in spite of the increasing demand for home consumption, and high protection, production shows little tendency to increase. The tariff on imported raw cotton, 7.27 cents a pound,

is the highest in the world, the next highest being Russia with 7.22 cents a pound, Peru with 2.65 cents, and Mexico with 1.74 cents.

The unprogressive state of cotton culture is said to be due to the fact that cotton is grown in small patches by small farmers, who till the lands by the most primitive methods, and who have neither the money nor the knowledge to adopt more advanced systems; also, to the lack of transportation facilities. Again, another drawback is the uncertain and irregular rainfall, which is often excessive at the fruiting period and at other times fails entirely, resulting in prolonged drought.

Cotton can be raised practically in all parts of the country, but the States producing the largest crops (in the Northeastern section) are, in the order of their importance, about as follows: Pernambuco, Parahyba, Rio Grande do Norte, Ceará, Alagôas, Maranhão, Sergipe, São Paulo, Minas Geraes and Bahía.

The Pernambuco cottons are in general of long staple, and the arboreous Peruvian varieties predominate. The varieties most cultivated are known locally as quebradinho, creoulo, caiana, and governo, especially the first two, both of which are tree-cotton. The crop of this State ranges from 150,000 to 250,000 bales. The States of Parahyba and Rio Grande do Norte are ranked after Pernambuco in cotton production. The tree cotton of these States gives the largest yield and will bear six to eight years. Sea-island cotton also gives good results. The Maranhão cotton ranks second only to the famous sea-island. The varieties most cultivated are the Peruvian and some varieties of herbaceous; the creoulo, quebradinho, and the governo being mostly esteemed. The highlands produce cotton trees that bear eight or ten years, and are often 20 feet or more in height. The sandy lands of the State of Ceará produce an excellent cotton, the fibre of which is strong, flexible and silky; the salt marshes produce the acclimated sea-island, and also tree cottons that bear regularly for periods up to 10 years. The herbaceous varieties produce cotton in three to four months. The small State of Alagôas, in proportion to its size produces more cotton than most of the other States. In the State of Sergipe the herbaceous cottons predominate, but there are also some of the longer-staples grown. The herbaceous cottons take six months and the tree cottons nine months to bear.

The statistics of cotton production in Brazil are very unsatisfactory and not always reliable, but as nearly as can be ascertained the crop from 1910 to 1915, inclusive, in Brazilian bales (of 176 pounds each) averaged 966,000 bales, the maximum being

reached in 1913 with 1,165,000 bales, and the minimum in 1915 with 781,000 bales.

On account of the increased domestic consumption, the exports of raw cotton from Brazil have declined considerably in recent years. Back in 1872 as much as 173,115,500 pounds were exported. Nothing like this amount has since been sent out of the country, as the home consumption has continually increased. The exports in 1912 reached 36,980,000 pounds, in 1913, 82,504,000 pounds, and fell to 1,960,000 pounds in 1915.

The spinning and weaving of cotton in Brazil has developed to such an extent in the past 20 years that it is now the most important industry in the country. And, it is not only a valuable asset in the prosperity of Brazil, but also a growing factor in its economic development as is evident from the following data very recently compiled by Señor Cunha Vasco, showing the comparative status of the industry in 1905 and 1916:

| | 1905 | 1916 |
|---|---|---|
| Number of mills working regularly | 110 | 250 |
| Number of spindles working regularly | 734,928 | 1,464,218 |
| Number of looms working regularly | 26,420 | 49,648 |
| Number of hands working regularly | 39,159 | 72,943 |
| Annual production in yards | 264,749,000 | 261,520,700 |
| Capital | $48,427,000 | $78,756,000 |
| Value of output | 30,260,750 | 59,783,750 |

The annual consumption of cotton per spindle is estimated at 88.18 pounds, from which it is deduced by Centro Industrial, a commercial association of Rio de Janeiro of high standing, that not less than 129,121,900 pounds of cotton are consumed annually. The leading States in the manufacture of cotton, in the order of importance: Minas Geraes, São Paulo, Rio de Janeiro, Federal District, Bahía, and Maranhão. There are from one to a half dozen mills in ten other States. The goods made in the Brazilian mills are chiefly of the coarse and medium grades. The largest output is of colored goods, followed by gray, printed, dyed, and bleached, in the order named. Some of the larger mills are manufacturing the finer grades, part of which compare favorably with the imported goods in both weave and finish.

The value of the exports of cotton from the United States to Brazil in 1913, amounted to $386,368, and in 1916 to $782,755, a gain of $396,387, or 103 per cent.

# Cattle and Meat Industry of Latin America

By W. B. Graham

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THE world demand for meat, and particularly beef, has directed attention to Latin America as the most promising field for its production. Locally, there are but few places in either the Northern or Southern group where cattle have not been raised with success since the Spanish settlement. Due, however, to the lack of transportation facilities and extensive meat preserving plants, until recently their great value in export trade was almost entirely in their hides. In consequence, the native stock deteriorated through interbreeding and acclimatization to the tropical and semi-tropical conditions, the result being a non-fat producing animal of small size whose beef was unsuited to the tastes of foreign buyers. But with a foreign demand, and the installation of packing, refrigerating, and transportation facilities, cattlemen of the pampas of Argentina early recognized the need of scientific methods. Foreign pedigreed stock has been introduced for cross breeding, fat producing feedstuffs have been cultivated, sanitary regulations have been decreed and enforced, inland transportation has been facilitated and markets have been established. The result is that to-day, under the stress of war requirements for foodstuffs, Argentina is prepared, along with her sister Republic, Uruguay, and the beginning of a powerfully potential export meat trade is unfolding itself throughout the southern part of the continent, including both Brazil and Paraguay, with the southern provinces of Chile. The present development, yet in its beginning, has shown that, wherever intelligent encouragement has been given to the cattle industry it has prospered. Cheap grazing land, cheap labor, salubrious climate, luxuriant vegetation, improved methods of refrigeration and transportation, await only the scientific correlation of these elements in the more intensive application of the principles of animal industry to make Mexico, Central America, the West Indies, and South America a constant producer of cattle, beef, and other meat producing animals for ages to come.

## Argentina

The Argentine Republic is the greatest live stock country of Latin America. Situated between 22° and 55° of South Latitude, it has every degree of climate that the United States has, including a diversity of rainfall. Certain parts, particularly in Patagonia, are semi-arid, and deducting these, along with the foot-hills of the Andes, and 90,000 square miles under cultivation, from the whole area leaves an estimated 484,162 square miles available for live stock, an area approximately twice the size of the State of Texas. The number of cattle, officially estimated 1 Jan. 1915, was 30,000,000—3.8 per capita—valued at $955,350,000, in addition to 80,000,000 sheep, valued at $203,808,000, 4,564,000 goats, valued at $3,875,748, and 3,200,000 swine, valued at $33,968,000. Of a total of exports amounting to $558,280,643 in 1915, animals and animal products aggregated 218,780,416 gold pesos ($0.965), or $211,516,181.44.

From the days of the earliest settlers the raising of cattle has been the important industry of the country, the immense "pampas," or prairies, and the salubrious climate being particularly adapted for live stock. But commercially, as far as exports were concerned, cattle were raised chiefly for their hides, the meat being consumed at home, with the exception of a small export trade in dried beef, or "tasajo," the only form of preservation generally known, and a limited number of stock on the hoof sent to neighboring countries. The result locally was that the inhabitants of Argentina became the greatest consumers of beef in the world, a reputation they still maintain, the per capita consumption being 275 pounds in the cities, and about 300 pounds in the country, as against 112 pounds for Great Britain, 102 pounds for Germany, 80.3 pounds for the United States, and 77 pounds for France. The first shipment of refrigerated beef was exported from Buenos Aires to Havre in 1877—80 tons. While it was hailed as a success, it was not until the period beginning 1885 that it became of commercial importance. The amount shipped in that year was small—a valuation of only $1,680—but sufficient to show its commercial practicability, and from that time it has grown to immense proportions, being to-day the greatest staple of the country, and a product that will not attain to its potentialities for years to come. It is sufficiently large at the present time to control the world quotations of meat, and has been responsible for the introduction of hundreds of millions of dollars not only into the exploitation of Argentine industry but that of the entire Rio Plata territory and the whole semi-tropic South America southward.

During the past generation the leading ranchmen, supported by the government in the realization of the need for better beef stock, have imported the best examples obtainable of well known European breeds, which they have either crossed with the native cattle or kept pure. This movement has taken place largely during the past decade. Considered from all points of view, the Shorthorn has been accepted as the animal best adapted to Argentina's needs, figures from the *Argentine Herd Book* for the present year (1917) showing 15,127 bulls and 27,422 cows of this breed. Other breeds are in the following order: Hereford, 2,294 bulls and 4,280 cows; Aberdeen Angus, 1,638 bulls and 2,654 cows; Flemish, respectively 62 and 185; Red Polled, 56 and 71; Jersey, 34 and 41; Red Shorthorn, 17 and 30; and Devon, 4 and 16. This does not represent all the cattle of pedigreed stock, but those registered only. The number, of various breeds, registered in the *Herd Book* from 1908 to 1917 is 60,107 bulls and 66,091 cows, of which approximately 54,000 are alive to-day. From 1901 to 1914 there were brought into the Republic 12,761 pedigreed animals, chiefly from Great Britain, valued at $8,000,000, or an average of $637 each. The interest in live stock improvement is so keen that animals of real promise command the highest prices. At the show sale of 1913 at Buenos Aires, the Shorthorn bull, Americus, sold for $33,968, the world's record price, other high figures being Durham Shorthorn (in 1915), $25,476, and the Shorthorn reserve champion (1916), $23,353. The average price brought for 200 bulls auctioned in 1915 was $2,420.

The great majority of stock for breeding purposes is brought from Great Britain, the government regulations being extremely stringent as to the country of origin, the purpose of which is to prevent the entry of stock afflicted with the foot-and-mouth disease and other plagues. The regulations were in fact so strict that it has been, until quite recently, impossible to introduce any live stock whatever from the United States, the fact of the foot-and-mouth disease existing in any part of the country operating as a bar to cattle from any other part, even across the continent where the plague might be unknown. However, at the solicitation of the American Shorthorn Breeder's Association the regulations were modified by Decree of 6 Oct. 1915, in the sense that, while importation is prohibited from any country while the foot-and-mouth disease "exists or has existed in an epizootic or general form; or from departments, provinces, countries, or states where the disease exists or has existed within three months previous to shipment, the three months counts from the date of the official

declaration of the extinction of the disease, provided that such declaration has not been made until 15 days have elapsed from the last case." The government feels that it is able now to successfully cope with the cattle plague.

Under the patronage of the government, the Sociedad Rural Argentina — the national organization interested in live stock — holds annual international live stock exhibitions at Buenos Aires, at which prizes for excellence are awarded by a jury sent to Argentina by the Royal Agricultural Society of London, thus maintaining breed standards, the while keeping alive the interest between Argentina and her greatest meat customer. Further encouragement is given to the meat industry by the government agricultural schools, and also by the sending abroad of students, or "becados," to study veterinary science in the leading institutions of France, Germany, Great Britain and the United States. These young men, fresh from the latest and most advanced instruction abroad, return to take up their work on the great ranches or with the department of the government concerned with live stock where they are a strong factor in the promotion of animal industry.

With the exception of those parts of Argentina devoted to agriculture in whole or part, cattle run on immense ranges similar to those of a generation ago in the western United States. Under ordinary conditions but little care is required, the pasturage and climate being favorable. There is, however, the danger every few years of droughts, diminishing the supply of water and grass, causing poorly conditioned stock to be rushed to market. The results are commercially bad for the industry, in that the country is depleted of its stock of calves and breeding cows, as is shown by the varying gains and losses indicated in the national census. Of late, however, since the success of the refrigerating packing houses has been demonstrated commercially, a vast acreage has been regularly devoted to the raising of feedstuffs for cattle, the principal ones being corn, 1,250,000 bushels, 1915–16, and alfalfa, known locally as "lucerne," 18,219,997 acres, 1914. Recently the silo system has been installed as a remedy to overcome the effects of droughts, largely through the encouragement of the railroads. These measures, taken in connection with the improvements in breeding and the increasing world demand for cattle products, is an earnest of the continuance and growth of Argentine cattle raising and meat packing.

The packing houses of Buenos Aires, La Plata, and other Argentine cattle markets rank with the best in the world, and in

connection with their output a fleet of vessels fitted for the carrying of frozen and chilled meats plies between the Rio Plata and European ports, with lesser facilities for meeting the requirements, just beginning, of North America. It is estimated that of the British investments of approximately $2,500,000,000, more than one-half is devoted in one way or another to the cattle or packing industries. Likewise, Argentina has been a favorite field for American investments, particularly in the packing establishments. Among the principal packing plants, with their production of frozen and chilled beef in 1912, are the following: River Plate Fresh Meat Company (British), 608,677 quarters; Sansinena Meat Freezing Company (British), 472,487 quarters; Las Palmas Produce Company (British), 572,020 quarters; Frigorifico Argentino (Argentine), 351,905 quarters; La Blanca Argentine Meat Freezing Company (United States), 531,571 quarters; Smithfield and Argentine Meat Company (British), 373,320 quarters; and La Plata Cold Storage Company (United States), 1,212,786 quarters, in addition to 233,488 quarters by other concerns. Besides this, these same plants slaughtered 3,584,927 head of sheep. Since 1912 numerous plants have been installed in various parts of the Republic, the most important being the Frigorifico Armour (United States), installed at Buenos Aires in 1916, one of the most complete and modern in the world. Due to the present European war demands they have been operated at their capacity. Southern Patagonia, formerly considered a bleak, waste territory, has become an important producer of meat, principally mutton, the packing houses for which are located at Punta Arenas, Chile.

The exports of "pastoral products," comprising frozen and chilled beef, frozen mutton, sundry frozen meats, preserved meats, extract of beef, powder of meat, preserved tongues, live stock — cattle and sheep — condensed soup, and jerked beef — "tasajo," according to the figures of the Dirección General de Comercio y Industria, at five year periods from 1885 to 1913, are as follows: 1885, $6,684,945; 1890, $9,971,249; 1895, $14,768,972; 1900, $13,894,206; 1905, $33,170,104; 1910, $43,440,235; 1911, $53,167,086; 1912, $56,502,816; and 1913, $53,486,761. Under the general heading "pastoral products," the United States Consul at Buenos Aires states the exports for 1914 as $146,389,581; for 1915, $211,057,640. These last two years doubtless include hides, an important item of export, the total of cattle hides, in pounds, for the year 1914 being 122,552,518 (of which 102,541,570 to the United States); and 1915, 182,848,061 (of which 142,564,077 to the

United States). Of the beef exported, the United States bought, in pounds, in 1914, 115,784,599; United Kingdom, 604,866,777; 1915, United States, 84,077,633; United Kingdom, 637,903,108; the other large purchaser being France, 1915, 46,626,817 pounds.

### Bolivia

Bolivia is concerned chiefly with the mining and rubber industries. While stock raising might be successfully carried on in many portions of the country, it has, despite the encouragement of the government, been neglected except for local needs. While there are sufficient cattle for domestic purposes, and many thousands running wild, the export of meat will probably be delayed many years, as the grazing lands are located far in the interior of the continent and the means of transportation to the sea coast are difficult and costly. In that part of the Andes occupied by Bolivia and Peru are found the llama, alpaca, vicuña, and the domestic sheep, all producing meat for local demands, besides a very fine quality of wool for export. In 1913, 465 metric tons (2,205 pounds) of cattle hides were exported; in 1914, 374; and in 1915, 613. In addition, 6,558 head of cattle on hoof were exported to Brazil and Argentina. In view of this threatened depletion of the herds, the government is at present considering the prohibition of shipments of live stock, at the same time having already authorized the free importation of cattle, with a view of introducing the better breeds.

### Brazil

Brazil has devoted her greatest attention to the coffee and rubber industries, her exports in 1915 of these products being respectively 60 per cent and 13⅓ per cent of all products sent abroad. (See articles Coffee; Rubber.) The attention paid to this source of wealth has, consequently, resulted in the neglect of other industries, except such as have been required for home needs. Stock raising has only recently been attempted with a view to export. It is true that Brazil has long been a great source of cattle hides, but their number has been measured by the domestic consumption of meats. It is only since the outbreak of the present European War that serious attention has been paid to a diversification of industries, particularly meat. The increasing home demand for coffee, due to the increase of population — threatening a curtailment of exports — and the competition of cultivated Oriental rubber plantations, has aroused the government officials and economists, and late in 1916, the preliminary

session of the Sociedade Nacional de Agricultura (National Agricultural Society) was held at Rio de Janeiro, called for the purpose of studying the Brazilian live stock situation, particularly as regards cattle. Among other phases considered were: domestic breeds, their degeneration and means for their improvement; relative productive capacity; world supply and demand; possible federal, state, and municipal assistance. Plans were formulated for special courses in all subjects related to the cattle and meat industries, and the formation of an efficient corps of veterinarians and bacteriological experts to uniformly control cattle rearing and meat sanitation, with the establishment of zoötechnic stations and model farms. In addition consideration was given in detail to the transportation of stock, packing and refrigeration, domestic and oversea freights, and the question of direct government supervision over same. As a result of this meeting, a Cattle Exposition was held at Rio de Janeiro, 13–28 May 1917, cash prizes and diplomas being provided by the society, and Armour & Co. and Swift & Co., Chicago packing concerns, contributing handsome cups.

The number of cattle in Brazil at the present time is conservatively estimated at 30,705,400 — 1.222 per capita, and 9.03 per sq. mile — the greater number being found in the southern and western parts of the country. Of the States, São Paulo has 1,312,000, Piauhy, 1,163,000, Ceará, 1,162,000, Rio Grande do Sul, 7,249,000, Minas Geraes, 6,861,000, Bahía, 2,683,000, Matto Grosso, 2,050,000, and Goyas, 1,873,000. In addition, the estimate of sheep is 11,000,000; goats, 10,000,000; and swine, 20,000,000. With the exception of the southern part of Paraná, frosts are unknown and the native pasturage, known as "caipam gordura" — fattening grass — is abundant the year around. In addition, water is plentiful and shade trees, necessary in the more tropic portions, are abundant. It is generally reckoned that in the cattle states four acres of grass is required for each animal. Certain parts of the country, in the northern and eastern portions, are totally unfitted to cattle raising, and other portions are occupied with agriculture, mining, and rubber, and these must be served by the meat producing states. Besides the newly organized Sociedade Nacional de Agricultura, many of the individual states have their local cattle fostering organizations, under whose auspices fairs and expositions are held annually. In Rio Grande do Sul a State union — the União dos Criadores — was organized in 1915 with the purpose of inducing the government to promote rural development, including improved transportation facilities

co-operation in the purchase of necessities required in the cattle industry, particularly cattle for breeding, barbed wire, salt, windmills, etc. In two years the Union enrolled 1,600 members, being to-day in a flourishing condition. From its headquarters at Porto Alegre a monthly magazine is issued, for the use of its members, the public, and for exchange purposes with like organizations throughout the world. The president of the Commonwealth of Minas Geraes, the fifth state in size in the country, in his last annual message (1916) called particular attention to the lack of transportation facilities, a general need throughout the Republic, and proposed a concerted effort to increase the frozen meat industry in that particular state. He mentioned in particular the shipments of this product from Santos, beginning in September 1914, with 3,100 kilos, valued at $270, and increasing during the calendar year 1915 to nearly $1,500,000, and during the first four months of 1916 to $1,177,000, the bulk of this being raised in Minas Geraes. Government aid has been given in this Commonwealth with good results, cattle fairs having been established at Tres Corações, Sitio, Bemfica, Lavras, and Campo Bello, at which 192,336 head were sold in 1913.

The native live stock of Brazil — of Portuguese origin — is well suited to the climate and pasturage of the country, and has recently been successfully crossed with foreign breeds. While small, the domestic animal, known as the "gado crioulo" (creole), is not unsuited to beef purposes, and by selective breeding has attained an excellence that fits it for exhibition purposes in competition with foreign breeds, or with the "mestico," the native crossed with imported sire. Of the domestic strain, the most desirable are of the four types known as "caracu," "curraleiro," "cortaleiro," and "mocha." Of the foreign breeds introduced, the Polled Angus is considered the best, the Hereford and Shorthorn being second and third choice. Some attempt has been made to cross the Zebu, from India, with domestic stock, as being adapted in certain parts of the country to withstand the intense tropic heat and insect pests.

As regards meat production, Brazil has long supplied her domestic needs, in addition to exporting quantities of dried beef, known as "xarque," "charquai," "tasajo" and "biltong." In the city of Rio de Janeiro alone 31,150,020 pounds were consumed in 1916, and 9,912,056 pounds re-exported, principally to the Amazon ports. Of these amounts, the states of Rio Grande do Sul supplied 2,843,302 pounds, Matto Grosso, 5,044,930, and

Minas Geraes and São Paulo, 22,806,366 pounds, figures that indicate the extent of local production. The dried beef industry continues as an important branch of Brazilian commerce, as well as that of other South American states — the product is cheap, wholesome, may be produced without expensive equipment, requiring no coal or ice, both extremely expensive, and is easily transported. However, coincident with the European embroglio, the country awoke to the fact that a handsome profit was in store for foodstuffs, particularly meat, with the warring nations, and during the period following 1914 rapid strides have been made in the installation of frozen and chilled beef packing plants. Under date of 4 Jan. 1917, Consul General Gottschalk of Rio de Janeiro gives the following list of established and proposed refrigeratiog packing houses in Brazil: At Osasco, State of São Paulo, the Continental Products Company, of Wilson & Co. and the Brazil Railway, (United States), ultimate capacity daily 800 head of cattle, 1,500 sheep, and 400 hogs; at Barretos, State of São Paulo, Senhor Conselheiro and associates (Brazilian); at Rio Grande do Sul, Swift & Co. (United States), now under construction; at Pelotas, State of Rio Grande do Sul, União dos Criadores (Stockmen's Union), under construction; at Santa Anna, State of Rio Grande do Sul (near Uruguayan boundary), proposed location of Armour & Co. (United States); at Mendes, State of Rio de Janeiro, plant under construction (United States and English); at Rio de Janeiro, modern freezing plant, subsidiary of Brazil Railway Co., which merely prepares for export the meats of the municipal slaughter house at Santa Cruz, near Rio de Janeiro.

The exportation of refrigerated meat, in consideration of the short time that it has been a subject of Brazilian trade, has been important. The first shipment was made from Santos, consigned to New York, in July 1915, amounting to 205,350 pounds, the whole amount exported from that port during the same year amounting to 17,482,839 pounds; from Rio de Janeiro, 1,239,992 pounds; and from Para, 7,902 pounds, a total for the six months of 18,730,733 pounds, valued at $1,530,399. Of this quantity, the United States received 4,393,287 pounds; France, 222,910 pounds; United Kingdom, 9,592,626 pounds; and Italy, 4,521,910 pounds. During the first 11 months of 1915, 14,686,386 pounds were exported, and in a like period of 1916 the number was 70,268,566 pounds, an increase of approximately 400 per cent, a ratio that is maintained in the shipments during the early months of 1917, with Rio de Janeiro, however, leading Santos in the quantity shipped.

At present, shipping facilities are being created to handle the export meat trade, the regular steamship lines calling at Brazilian ports adapting themselves to the new requirements. The steamship *Rio de Janeiro* of the Lloyd-Brasileiro Line — owned by the Brazilian government — made its first trip with refrigerating installation leaving Santos for New York 4 July 1915, with 205,350 pounds of beef. Other boats of the same line, the *Minas Geraes*, the *Acré*, and the *São Paulo*, have since been fitted with cold storage holds for the same trade. In addition, the English and French lines making Brazil have every facility for handling meats. On 15 Sept. 1916, the *Highland Harris* (English) carried a cargo of 6,398,000 pounds from the packing house at Vera Cruz (Rio de Janeiro); and on 19 Nov. 1916, the *Cravonshire* (English) carried 8,132,500 pounds, in addition to 1,100 cases of canned meats from the packing plants at Barretos and Osasco. Thus far, the greater quantity of refrigerated meats has gone to Europe. While a large quantity has been cleared for the United States, the Summary of Commerce makes no mention of imports from Brazil, the quantity shipped here doubtless having been transshipped.

Of the by-products of the meat industry, hides have been the most important. In 1913, the total exports were 35,075 metric tons (2,204.6 pounds), of which the United States received 1,122, Germany, 9,823, France, 9,892, and Great Britain, 1,585; for 1914, the total was 31,434 metric tons, of which the United States received 5,617, Germany, 8,964, France, 5,432, and Great Britain, 1,845; for 1915, the total was 37,080 metric tons, of which the United States received 19,796, Germany, none, France, 2,701, and Great Britain, 3,386 — the exports of the United States approximating 54 per cent of the total. In addition, the exports of sheep and goat skins for the years 1913–14–15 amounted to 3,232, 2,487, and 4,573 metric tons respectively, the United States buying from 75 per cent of the total in 1913 to 98 per cent in 1915.

## Chile

Chile, with her mineral and chemical industries and shortage of grazing lands, has been unable to produce sufficient beef for her own consumption. In 1914, animal products to the amount of four and one-half million dollars were imported. The number of horned cattle in the country in 1915, according to the official estimate, was 2,083,997. Besides, there are about 4,600,000 sheep, and 221,000 hogs in the country. With the opening up for

settlement of the six southerly states of Chile for agriculture and stock raising, there is a probability of the country excelling in the packing and export of meats, particularly mutton and sheep products. The great centre for live stock production extends southward from Llanquihue to Cape Horn, the commercial centre being Punta Arenas, on the Continent side of the Strait of Magellan. A city of 17,000 inhabitants, it has grown up during the past decade as the packing centre of Chile and Argentine Patagonia. In 1914, the shipment of animal products, chiefly to Europe, amounted to $5,405,120; in 1915, $6,853,229. Although Punta Arenas is in Chilean territory, there is no indication in the statistics of the country as to what part of these exports is to be credited to the nation, and in fact a great proportion should be credited to Argentina. The cattle and sheep and packing interests in and around the city of Punta Arenas represent a capitalization of approximately $8,000,000.

## Colombia

Colombia has thousands of acres of fine grazing lands open the year around, principally in the Magdalena and Sinu valleys, on the Pacific highlands, and the Caribbean coast. The number of cattle is estimated at 5,000,000 — 1 per capita. Locally, the cattle industry is of importance for the domestic supply of meat afforded, and for the quantity of hides exported. Some few cattle are sold abroad. In 1914, 400 head of beef steers were shipped to Panama; in 1915 the number was 850, increasing in 1916 to an estimated 1,000 per month. During the same year (1915) 41,255 head of cattle were shipped to the United States, which fact vouches for their sanitary excellence, in striking contrast to former conditions that kept Colombian live stock off the United States and Cuban markets. Lately the government has taken strong measures to assist the cattle industry, one being the law of 1913 providing for the establishment of packing plants on the Atlantic coast, the products of which may only be exported, under government inspection and supervision. In March 1917, announcement was made of the government contract with Evaristo Rivas Groot for the erection of a plant on the Gulf of Morrosquillo. The shipment of hides is an important source of income, those sent abroad in 1912 amounting to $2,661,721.50; 1913, $3,180,781.68, of which the United States received $1,024,955 (1912) and $966,75[illegible] (1913). The exports of hides to the United States in 1914 were $1,042,174; in 1915, $1,904,558; and in 1916, $2,978,761.

### Costa Rica

Costa Rica had, in 1905, 304,662 head of cattle, and 79,730 hogs; 1910, 333,417 head of cattle, and 69,712 head of hogs; and 1915, 347,475 head of cattle, and 76,198 head of hogs — .845 head of cattle per capita, and 18.54 per sq. mile. According to the report of the United States Consul, Costa Rica offers rich possibilities for the cattle industry, there being large tracts of suitable grazing land procurable in fee at from $0.50 to $1.00 per acre, or on lease for about one-tenth of these sums. In addition, cattle are easily moved, no great distances having to be travelled, and the climate being favorable, no shelter is required. The most available cattle lands are situated in the Provinces of Alajuela, Cartago, and Guanacaste. The present stock of cattle consists of the native breeds crossed with the Holstein, Guernsey, and Durham. There is no refrigerating packing house in the country, but a considerable number of cattle on the hoof are shipped to the Canal Zone. The number of cattle slaughtered in 1905 was 34,081; 1910, 48,371; and 1915, 50,111. From these, hides were exported in 1905 to the value of $108,810; 1910, $125,419; and 1915, $160,124. Exports of cattle and calf hides to the United States amounted in 1911 to $63,853; 1912, $39,392; 1913, $49,906; 1914, $50,634; 1915, $87,749; and 1916, $96,595.

### Cuba

In Cuba, according to the registrations of the Department of Agriculture the number of cattle (1914, 3,395,000 — official) (1916) is 4,000,000 — 87 per sq. mile and 1.62 per capita. (*Commerce Reports*, 20 Sept. 1916, p. 1079.) The Republic, due to the diversity of its particular tropical productions, tobacco and sugar, and the high price of land, has not paid uniform attention to the cattle industry. At the conclusion of the War for Independence there were few cattle left on the Island, and importations were made from Porto Rico, the United States, Mexico, and South America in 1899 of range cattle to be fattened on the domestic pastures. At the same time, and since, breeding animals have been imported, principally from the United States, with the result that in the provinces of Camagüey, Oriente, and Santa Clara many fine ranches are found. In these provinces land is reasonably cheap, grazing is good, and water is plentiful. Most of the grazing land is fenced, and from two to three acres of native grass — either Guiena or Parana — is sufficient for each animal the year around, with necessity for extra feeding during the frequent droughts. The favorable natural conditions resulted in a

rapid increase in the number of cattle, and in 1905 the Island was considered as being overstocked, from the fact that the supply was too limited to warrant important refrigerating plants and shipping facilities for dressed meats, and, being grass fed, the cattle could not be exported on the hoof successfully. Since 1905, the number of cattle has increased with the population, while a steady improvement has been shown in their breed and weight, and a marked improvement in their sanitary condition.

Within the past 10 years cattle men have recognized the advantage of proper facilities on their ranches, and numerous extensive improvements have been made in the matter of conveniences, such as wind mills, tanks, ponds, and silos, and in some rare cases efforts have been made to utilize the by-products of the sugar industry in the fattening of cattle. Alfalfa has, likewise, been introduced, and, when the soil is inoculated with the alfalfa bacteria, it has proven of great utility in supplementing the native feedstuffs. At present there are no packing houses in Cuba. There is, however, at Habana a refrigerating establishment of limited capacity for supplying the local hotels and steamship companies with frozen meat. Due to this fact, the general method of meat preservation is that of dried beef, large quantities of which are consumed in the Republic, the domestic supply being at present insufficient.

The exports of live cattle in 1914 amounted to $14,925; 1915, $7,715; hides and skins, 1914, $2,365,498; 1915, $3,038,429; other animal products, 1914, $148,901; 1915, $76,653. With the exception of a small part, all these exports were made to the United States. During the same years there were imported, 1914, 22,808,429 pounds of salt, fresh, canned, and jerked beef, valued at $2,746,485; in 1915, the amount was 15,498,600 pounds, valued at $2,137,642, nearly all (jerked beef) coming from Argentina; 1914, 6,829,067 pounds; 1915, 3,744,766 pounds; and Uruguay, 1914, 14,426,820 pounds; and 1915, 11,617,423 pounds.

## Ecuador

Ecuador is mountainous over much of its area, and is industrially concerned with the production of cocoa and other tropical products, to the neglect of the cattle industry. There is, however, much available land suited to live stock, particularly on the Esmeraldas and Santiago rivers and on the table-lands to the east of the Andes. The entire stock of cattle, nearly all of native breed, is consumed at home, the hides alone being exported. These latter amounted in 1909 to $220,600; in 1910, $257,252; in

1911, $210,428; and in 1912, $294,898. Many attempts have been made by large landholders and corporations doing business in the country to encourage the industry of cattle raising, and annual fairs are held at Quito, prizes being awarded for the best animals exhibited.

### Guatemala

Guatemala has, according to official estimates (1915) 655,386 head of cattle — 13.57 head per sq. mile, and .309 per capita. The great majority are of the native strain, weighing on an average 850 pounds. Imported breeding stock has lately been introduced, among which were 400 bulls from the United States, in 1915. For crossing purposes the Hereford and Little Holstein are the favorites, the animal produced by the crossing weighing from 1,100 to 1,200 pounds.

All sections of the Republic are suitable for cattle, but the favorite portion for fattening purposes is the Pacific Coast slope, where on an acre and a half of Guinea or pampas grass per animal they are prepared for market. The advantages of this particular section have attracted cattle from the other parts of Guatemala, as well as Honduras. The drive from the latter country is estimated at 40,000 head annually. Meat being abundant and cheap its consumption is very high. The late ruling price of beef cattle on hoof at the principal market, Guatemala City, is $0.04 per pound. In 1914 the prices for 122,000 head of cattle slaughtered ranged from $0.0075 to $0.03 per pound. In 1915, under a special concession, three shipments of cattle — amounting to 2,198 head — were made to the United States through the port of New Orleans. They were sold to the packing houses at Chicago and St. Louis for $0.065 per pound. As evidence of tick infection was found, further shipments were prohibited by the United States Bureau of Animal Industry. A recent concession for a packing plant near Quiriga, Guatemala, on which construction has commenced, promises to give an increased impetus to the cattle industry in both Republics. Arrangements have also been made for the shipment of the prepared beef direct to the United States. The exports of cattle and calf hides to the United States amounted in 1911 to $11,852; 1912, $2,093; 1913, $12,605; 1914, $6,871; 1915, $210,805; and 1916, $197,107.

### Honduras

Honduras has, according to conservative estimates, 489,000 (1914) head of cattle — 10.57 per sq. mile and 1.78 per capita — with a present annual increase of from 12 per cent to 15 per cent. It

was recently the subject of a special investigation of the United States Department of Agriculture with regard to its live stock prospects, and a very flattering report was made. The greater number of cattle is found in the Departments of Olancho and Choluteca, with numerous herds in the Departments of Cortes, Colon, Atlantida, and Yoro. Water and shade are abundant, and the Guinea and Para grass is at times so rank that it hides the cattle that graze in it. Formerly many cattle were shipped annually to Cuba, and at present large numbers are being sent to Guatemala, Salvador, and British Honduras. At the present time construction is under way on a large beef packing plant near the town of Quiriga, Guatemala, on the Honduras side of the boundary, the initial unit to have a capacity of 50 head per day. The particular concession concerned in this project controls 100,000 acres of land in Honduras alone, well stocked. In addition, according to the statement of the United States Consul at Ceiba (5 April 1916), plans are on foot for making regular shipments to the United States through the port of New Orleans, to which end every effort is being made to comply with the sanitary requirements of the Department of Agriculture, it being planned to eventually send 50,000 annually. The exports of hides to the United States in 1911 amounted to $35,563; 1912, $52,214; 1913, $73,006; 1914, $82,332; 1915, $137,773; and 1916, $325,460.

### Mexico

Due to the recent disturbances in Mexico, it is difficult to estimate the extent of the cattle industry to-day. In 1902 the number of cattle was reckoned at 5,142,457 head, a low estimate. At present, the supply of cattle for the meat demands of the country is inadequate, so much so that in October 1916, a partial embargo was placed upon their export, which embargo was in May 1917, made complete. As showing the present condition, the statement of Consul Philip C. Hanna at Monterey, made to Washington (Consular Reports, 9 Aug. 1916), is generally true for the whole Republic: "Large areas . . . over which large herds of cattle roamed, are to-day empty pastures. A large sum in export duties was collected, but the meat supply . . . has been greatly reduced. . . . The declared export value of hides and bones from this consular district for the year, as compared with 1914, reveals the fact that there was a falling off of 10 per cent in dry cattle hides, 72 per cent in green (or butcher) cattle hides, 54 per cent in goat skins, 80 per cent in pig skins, and 36 per cent in crude bones. One of the many serious problems confronting

the nation at present is the replenishing of its meat supply and at prices within the purchasing power of the poor." Supplementing this, Consul Frederick Simpich, of Nogales, reports (1916): "Heavy exports of cattle have greatly depleted the herds, but owners were compelled to sell, in many cases, in order to protect themselves. The wholesale stripping of the ranches, wherein cows, heifers, and all were sold, has discounted the future for several seasons ahead." In 1915, the exports from Mexico of cattle amounted to 13,907 head, valued at $332,699; 1916, 24,919 head, valued at $556,540. Of cattle and calf hides exported to the United States the number of pounds was: 1911, 22,871,509, valued at $2,796,652; 1912, 28,264,745, valued at $3,583,851; 1913, 29,559,779, valued at $4,230,382; 1914, 37,750,732, valued at $6,367,721; 1915, 50,808,523, valued at $8,357,078; and 1916, 44,101,773, valued at $7,661,104. The exports of fresh beef and veal to the United States in 1914 amounted to 212,865 pounds, valued at $14,114; 1915, 3,941,131 pounds, valued at $384,497; and 1916, 1,316,698 pounds, valued at $127,800.

### Nicaragua

Nicaragua has about 500,000 (estimated) head of cattle — 10.1 per sq. mile, and .833 per capita. Cattle raising has been up to the present one of the greatest industries in the Republic, there being produced sufficient for domestic demands and a surplus available for shipment to Costa Rica, Salvador, Honduras, and Nicaragua. The number exported annually is on an average 50,000 head. The Departments of Chonales, Leon and Segovia in the western part of the country are admirably adapted to the industry, and recently (1916) the United States Consul at Bluefields in a report to Washington recommended very highly the territory in his district for cattle raising, mentioning it as the only industry within the country wherein the producer was independent of the middleman, the demand for beef being so great that buyers were constantly scouring the country for live stock. The principal cattle market is Tipitapa, Department of Managua. Good grazing land is obtainable at from $0.75 to $1 per acre. The exports of cattle and calf hides to the United States in 1911 amounted to $142,589; 1912, $124,403; 1913, $205,817; 1914, $173,281; 1915, $358,642; and 1916, $454,648.

### Panama

Panama has, according to the *Bulletin* of the Pan American Union, 166,937 head of cattle — 5.15 per sq. mile, and .49 per

capita — with estimated facilities for caring for 5,000,000. One-third of the cattle in the country are in the Province of Chiriqui, the other cattle producing provinces being Cocle, Veraguas, Los Santos, and Panama. The exports of hides to the United States in 1911 amounted to $102,502; 1912, $112,480; 1913, $118,380; 1914, $172,443; 1915, $264,244; and 1916, $301,633.

## Paraguay

Paraguay ranks her cattle industry as her chief resource. In 1877 there were 200,525 head of cattle in the Republic; in 1886, 729,796; in 1899, 2,283,039; in 1902, 2,460,960; and in 1915, 5,249,043, the rapid increase being due to the lack of market, in addition to the large number brought in from Argentina and Brazil to occupy the cheap grazing lands. The natural increase, above those slaughtered, is reckoned at 6 per cent annually. The number per capita is 5.249, second only to Uruguay with 6.518 per capita, and 8.8 times that of the United States with .59 per capita. Due to its importance as a national asset, the government has been very liberal in the matter of granting concessions for stock raising and in the elaboration of meat and its allied industries. As a result, at the present time most of the available grazing land is taken up by settlers or large cattle companies, even in the Chaco, the extensive prairie territory lying west of the Paraguay River. The existence of cheap land has attracted many stockmen from Argentina, excellent pasturage being purchasable at from less than $1 up to $4 per acre. Land values are reckoned according to their access to transportation, rather than according to their availability for stock raising. A thoroughly regulated department of animal industry is maintained by the government, and sanitary regulations are enforced against the introduction or spread of the foot-and-mouth disease or other plagues. The experts and veterinarians in charge are chiefly men that have been educated at government expense in the technical schools of the United States and Europe. In addition, the Sociedad Ganadera del Paraguay (Live Stock Association of Paraguay), an organization of stockmen and business men, under the patronage of the banks of the country, has been an important factor.

The native, or "criollo" (creole) breed is a small animal, weighing from 850 to 1,000 pounds, incapable of putting on much fat. When crossed with European stock it is known as "mestiza," and compares favorably with ordinary unpedigreed stock, and thrives and fattens on the luxuriant pasturage afforded the year around. Efforts have been successfully made to cross the

"criollo" with Zebu stock from India, and in addition at the present time many bulls of the Shorthorn, Hereford, Holstein, and Polled Angus breeds are being introduced. Of all the stock in the country, it is estimated that 80 per cent is native, and 20 per cent mixed with European breeds.

The abundance of pasturage, supporting from 25 to 40 animals per 100 acres, with fattening herbs indigenous to the countries, and, with the introduction of more adequate transporta- upkeep of a cattle ranch very low as compared with neighboring countries, and, with the introduction of more adequate transportation facilities, along with refrigerating plants, Paraguay promises to be the great live stock region of South America. At present no fresh meat is exported. In dried beef, or "tasajo," however, the trade has always been considerable, the amount exported in 1913 being 3,771,625 pounds; 1914, 1,638,232 pounds; and 1915, 2,363,905 pounds. The first shipment of this product made to the United States — 4,500 pounds — was made in April 1917. It is expected that within a year regular shipments of refrigerated beef will be made, one packing plant, or "frigorifico," at Trinidad being just completed, and the materials for the erection of another at Asunción being now on the ground.

An increasing number of fat steers is exported annually, most of them being purchased by the Buenos Aires packers. The number for 1910 was 11; 1911, 137; 1912, 4,661; 1913, 36,564; 1914, 24,385; and 1915, 29,509. During the same period the number of cattle slaughtered for local consumption, representing also the number of hides produced — of which 90 per cent were exported — was: 1910, 343,447; 1911, 302,375; 1912, 238,042; 1913, 362,484; 1914, 318,397; and 1915, 340,692. The market price for steers for local slaughter during 1915 averaged $20 per head: for export, $25; and cows, $14.

## Peru

Peru is not a cattle country, other than for local needs. The mountainous nature of the country and the profits arising from certain minerals and special products of the country have relegated the live stock industry to a minor position. The llama, alpaca, and vicuña, all native to the region, furnish wool and meat in small quantities, domestic sheep raising being in addition an industry of some importance. As concerns beef and cattle products, a considerable quantity is imported, the figures for 1912 being $206,706; for 1913, $118,864; and for 1915, $113,193. In addition, in 1913, there were imported from Chile cattle to the value of $46,834, and from the United States $7,991, the former being

chiefly for slaughter, and the latter for breeding. Of exports, live cattle valued at $9,811 were sold in 1912, the amount in 1913 being $177,832. Hides of all kinds of live stock exported in 1912 amounted to $617,410; in 1913, $930,629. Of this last, cattle hides comprised $641,624, the same item amounting in 1914 to $521,947.

## Salvador

Salvador is essentially an agricultural country, coffee, sugar and rice being the great staples. The result is that the cattle industry, other than for dairying and domestic consumption, has been neglected, despite the efforts of the government to foster it. The number of cattle in 1906 was 284,000, later estimates indicating a small increase. So small is it in comparison with the size of the country and the population that during the year 1914 the total exports of hides amounted, according to the figures of the Salvador government, to only $48,669, of which $31,313 went to Germany, and $14,906 to the United States. Evidently on a different basis of valuation, the United States figures regarding imports of hides from Salvador, are as follows: 1911, $32,248; 1912, $45,393; 1913, $69,960; 1914, $78,650; 1915, $135,799; and 1916, $149,517.

## Uruguay

Uruguay partakes of the advantages afforded to the cattle industry by its geographical location, being of that group comprising southwestern Brazil, Argentina and Paraguay, the natural pasture of live stock. The number of cattle in the country (1916) was 8,192,602 — 6.518 per capita, the highest in South America, and approximately 17 head per sq. mile. This branch of industry has been the main resource of the country, formerly in the shipment of cattle on the hoof, the export of dried beef, or "tasajo," hides, beef extracts, and in addition, its sheep products, its sale of wool alone for 1909 being $18,682,112; 1910, $15,036,977; 1911, $19,491,761; and the first six months of 1913, $18,740,037. Meat and meat extracts (including mutton) were exported in 1909 to the amount of $6,190,979; 1910, $7,571,611; 1911, $7,017,944; and in the first six months of 1913, $1,083,900; during this last period slaughter house products and frozen and chilled beef were classified separately, the former amounting to $8,404,900, and the latter to $3,868,995, a total of $13,358,795 for the half year, the quantity exported since that time being greater per annum, as is indicated by the imports into the United States of fresh beef and veal — 1914, 38,712,846 pounds, valued at $3,313,618; 1915, 13,802,567

pounds, valued at $1,175,293; and 1916, 116,549 pounds, valued at $10,486. The sharp decrease for 1916 is explained by the great European demand, a demand that also called for the re-export of 18,000,000 pounds of the quantity imported in 1914.

There are three large packing houses at Montevideo, one of which is idle, due to the high price of coal. The two that are in operation are: the Frigorífico Montevideo, owned by Swift & Co. (United States), and the Frigorífico Uruguaya (British). In January 1917, Morris & Co., of Chicago, purchased 208 acres in Montevideo, valued at $155,000, and have planned to begin construction immediately. The investment will represent a total of $2,500,000, and a plant having a capacity of 1,200 cattle, 1,500 to 2,000 hogs, and the same of sheep is in contemplation.

Realizing the importance of the meat industry, the government of Uruguay has devoted the greatest attention to measures for its encouragement, promoting exhibitions of live stock and establishing experiment stations, decreeing sanitary regulations with regard to the cattle plague, quarantines, abattoirs, certification of meat, etc. In October 1916, the President recommended to the General Assembly the creation of a Department of Live Stock to operate under the Ministry of Industries, at the same time outlining the need for a central organization to direct the industry, to combine in one department the various offices in charge of inspection, animal diseases, marks and brands, and import and export requirements.

## Venezuela

Venezuela, formerly the home of great herds, has to-day about 3,500,000 head of cattle, although estimates have given as high as 9,000,000. About 500,000 are slaughtered annually, the great majority for domestic consumption. It is estimated that there are more than 100,000 sq. miles available for stock raising. On 12 March 1917, a presidential decree was issued establishing an experiment station near Caracas, to take up the problems of intensifying the industries of the Republic, including live stock. In the valley of the Orinoco, and particularly along the Colombian boundary in the state of Tachira, are splendid pastures, well watered and of uniform climate, where the cattle industry flourishes. The exports of hides (principally to the United States) in 1913 amounted in round numbers to $1,492,000; in 1914, $1,390,000; and the first six months of 1915, $845,000. Of cattle exported in 1913, the valuation was $625,000; in 1914, $285,000; and the first six months of 1915, $138,000. In addition, a small quantity of jerked, salted and frozen meat was exported.

# Hides and Leather in Latin America

By W. B. Graham
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DUE to war conditions, the price of hides and leather to-day is unprecedented. But aside from the war, the natural world demand is increasing faster than the production. During the decade, 1890–1899, inclusive, the average price of hemlock tanned sole leather was $0.1939 per pound. At the beginning of 1916, it sold for $0.3250, an advance of 67 per cent. Oak tanned sole leather in the same period advanced 57.6 per cent; calf skin, 58.8 per cent; and oak tanned harness, 49.9 per cent. During 1916 and 1917 a more than appreciable advance has again been made, and leather manufacturers protest their inability to secure the raw stock of hides. This upward movement has been reflected strongly in the great cattle states of Latin America, and in some it was the temporary financial salvation during the early commercial depression following the outbreak of the European War — as being a staple of immediate and cash demand.

Despite increasing production, little attempt has been made to use hides industrially in their respective countries. The great bulk is exported in its raw state, despite the fact of the vast quantities of tanning materials available throughout Latin America — quebracho, mangrove, divi divi, and innumerable others. These tanning materials are, in their turn, particularly during the past decade, an important export item, many shipments abroad being carried by the same bottoms that transport the hides for which they are intended.

As the greatest cattle country of South America, Argentina is the greatest producer of hides. Exports in 1885 amounted to $12,040,113; 1890, $10,931,216; 1895, $15,273,154; 1900, $13,436,361; 1905, $19,076,544; 1910, $30,711,408; 1911, $34,449,015; 1912, $42,129,576; 1913, $38,532,700; 1914, 124,552,518 pounds; and 1915, 182,879,061 pounds. Of this number 46.5 per cent was wet and 53.5 per cent dry. In this connection, it may be stated that all packing house and most of the metropolitan butchers' hides are wet, while the hides of beeves killed for individual consumption are usually dry, the former commanding a uniformly higher price as their texture is devoid of the unevenness caused by mosqui-

drying, as is frequently the case with the dry hides, these latter also frequently showing the knife marks of the unpracticed skinner's knife. Exports to the United States during the fiscal year ending 30 June 1912, amounted to $15,220,904; and 1916, $32,754,929, in addition to goat, sheep, and other skins. The United States is the greatest buyer.

Bolivia has many cattle, the greater number on ranches, but many running wild. The exports of hides in 1913 amounted to 465 metric tons (2204.6 pounds), valued at $143,916; 1914, 374 metric tons, valued at $104,666; and 1915, 613 metric tons, value not stated. Only a small part was consigned to the United States.

Brazil, according to the report of the United States Consul at Rio de Janeiro (Commerce Reports, 26 May 1917), concerning the market for shoes, states that local industry in the manufacture of this article is increasing. Other reports also indicate that leather is being prepared from domestic hides in increasing quantities, due to the availability of so many excellent tanning materials, not, however, on an export scale. Cattle hides to the amount of 35,075 metric tons (2204.6 pounds), were exported in 1913; 1914, 31,434 metric tons; and 1915, 37,080 metric tons. The destination of these is noted elsewhere in this work, under the article Cattle and Meat Industry in Latin America. During the fiscal year ending 30 June 1916, the exports of cattle hides to the United States amounted to 59,729,930 pounds, valued at $12,282,472.

Chile, in 1913, exported hides to the value of $1,537,850; 1914, $918,260; and 1915, $1,670,750; the exports of leather during these last two years being $225,627 and $261,342 respectively. No exports of consequence have been made to the United States until recently, the amount in 1915 (fiscal year ending 30 June) being 802,585 pounds, valued at $122,152; and 1916, 6,887,970 pounds, valued at $1,091,343. Leather to the value of $49 was exported to the United States in 1915 (fiscal year); and $2,555 in 1916.

Ecuador exported hides in 1912 to the value of $29,839; 1913, $5,604; 1914, $120,730; 1915, $66,459; 1916, $148,864. In a statement from the United States Consul at Guayaquil (Commerce Reports, 13 Jan. 1917), it is said that the total for the year 1916 was shipped to the United States. Evidently on a different valuation, the Reports of the United States Bureau of Foreign and Domestic Commerce give the amounts purchased from Ecuador as follows: 1915, 1,074,410 pounds, valued at $186,941; and 1916, 1,959,616 pounds, valued at $409,047.

Paraguay, during its entire history, has recognized the raising of cattle for their hides as one of its most important resources,

and at the present time there is a marked increase in the production and export of this staple. The number exported, in 1910, was 343,447; 1911, 302,375; 1912, 238,042; 1913, 362,484; 1914, 318,397; and 1915, 340,692. In 1915 the greatest number sent to any one country was 75,175 hides, to the United States, the other large purchasers being Holland, Great Britain, Argentina, and Uruguay. Evidently a part was credited to some of the transshipping countries, as the statistics of the United States Department of Commerce credit Paraguay with hides as follows: 1915 (fiscal year ending 30 June), 129 pieces (8,531 pounds), valued at $933; and 1916, 141 pieces (8,632 pounds), valued at $1,733. These are the only exports to the United States noted within recent years.

Peru exported hides, in 1912, to the value of $617,410; 1913, $930,629; 1913, $641,624; and 1915, $521,947. United States government statistics specify imports of hides from Peru, in the fiscal year 1915, at 1,003,134 pounds, valued at $174,375; and 1916, 3,263,109 pounds, valued at $584,542.

Uruguay, during the year 1909, exported hides to the value of $11,165,155; 1910, $11,147,242; 1911, $9,976,291; and in 1914, 2,079,514 pounds, valued at $8,015,476. Exports to the United States during the fiscal year ending 30 June 1915 amounted to 21,875,639 pounds, valued at $4,117,359; and 1916, 44,254,34[illegible] pounds, valued at $9,275,658.

Venezuela exported hides, in 1913, to the value of $1,492,000; 1914, $1,390,000; and the first half of 1915, $845,000. Her principal market is the United States. On an apparently different valuation, the statistics of the Department of Commerce state the imports of hides from Venezuela, during the fiscal year ending 30 June 1915, as 7,033,382 pounds, valued at $1,639,456; and 1916, 7,530,524 pounds, valued at $1,901,421.

Regarding the northern group of Latin American states, comprising Costa Rica, Cuba, Dominican Republic, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, and Salvador, reference is made elsewhere in this work (see article on CATTLE AND MEAT INDUSTRY OF LATIN AMERICA). Of exports to the United States in 1916, Central America contributed $1,523,209 worth of hides, with the greatest proportion coming from Nicaragua, Panama and Honduras. During the same year, Mexico exported to the United States hides to the value of $7,661,104; and the West Indies, including foreign possessions, $3,433,804, of which Cuba contributed $2,922,298.

# The Tobacco Industry of Latin America

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## Argentina

THE domestic production of tobacco in the Argentine Republic is used exclusively in the domestic cigar and cigarette factories. Due to its medium and inferior quality it is used for the cheaper grades of consumption, either by itself or mixed in proportions of 50 per cent or 55 per cent with the imported leaf. In 1895 the number of acres under tobacco cultivation was 39,030, and in 1912, 23,860, a decrease attributed to the high internal revenue taxes and the low import duties for the imported product. In view of this phase of the Argentine tobacco situation, the Section of Tobacco of the Argentine Department of Agriculture in July 1916, issued a report on the subject, in which it was stated that, despite the inferior quality of the product, it was of domestic importance, and recommendations were made to increase both the acreage and quality, the latter by the introduction of the approved scientific methods of cultivation and handling, as otherwise the domestic leaf will continue selling in the market for a third of the price of the imported leaf. The production for the decade, 1903–13, in pounds, was 149,995,150.8, the individual years being as follows: 1903, 8,382,675.4; 1904, 17,749,214.4; 1905, 18,417,847.8; 1906, 8,312,191.8; 1907, 10,051,960.6; 1908, 13,750,024.2; 1909, 21,829,029.2; 1910, 15,146,760.2; 1911, 12,825,-196.4; 1912, 12,241,435.8; and 1913, 11,238,315, showing a wide variation in the amount raised, the greater part of which is cultivated in the provinces of Corrientes, Salta, and Tucumán, all situated in the northern part of the Republic.

The principal tobacco consumption of the country is of cigarettes, most of which are of domestic manufacture, and retail, per box of 14, for from 4¼ to 17 cents, the demand for foreign cigarettes being supplied chiefly by the foreign element. Of cigars, the "Toscano," an Italian imported cigar is the most popular, retailing for 4¼ cents, and an Argentine imitation known as the "Avanti," retailing at 2½ cents. The well-to-do Argentinian smokes Habanas exclusively; in addition, there are various Brazilian, Dutch and German brands that have a considerable sale.

Very little tobacco is chewed. The imports during the five year period, 1908–12, were as follows: Habana leaf, 1,587,344 pounds; Paraguayan, 2,554,665 pounds; others 10,604,643 pounds of which about 70 per cent came from Brazil and 18 per cent from the United States. Of manufactured tobacco during the same period, 74,097 pounds from Uruguay, United Kingdom, Cuba, Italy, France, Spain, Egypt, etc.; Habana cigars in boxes, 87,989 pounds; other cigars in boxes, 2,044,902 pounds — three-fourths from Italy and the remainder largely from Switzerland and The Netherlands; other cigars, not in boxes, 55,193 pounds — Switzerland and Italy; cut tobacco ("picadura"), Paraguay, 7,738 pounds, and other, chiefly United Kingdom, 4,969 pounds; and snuff, 6,534 pounds, Italy and France.

## Brazil

Brazil, of the Latin American countries, is the greatest producer of tobacco, an industry that has been carried on since the days of the colonial governments. In 1796 the exportation of tobacco to Portugal amounted to more than 18,000,000 pounds, an amount that has steadily increased since that time until the formation of the Republic, since which time, due to labor conditions, the production has changed but little, being conservatively estimated at 77,640,000 pounds annually. In 1912 the exports amounted to 54,449,820 pounds; in 1913, 64,771,152 pounds. Ninety-five per cent of the exports are made from Bahia, the chief port of the tobacco district, and the greatest amount is sent to Europe. Taken in its entirety tobacco is the sixth in size of all Brazilian exports, the Republic, besides supplying her own domestic needs, supplying the greater part of the requirements of her neighboring countries. Besides the State of Bahia, the entire east coast is interested in tobacco cultivation, particularly the State of Maranhão, and lately it has become an industry of future promise in the States of Rio Grande do Sul, Santa Catharina, Minas Geraes, and Pernambuco. The average exports from Bahia to the other non-producing parts of Brazil is about 6,600,000 pounds annually, in addition to about $500,000 worth of cigars, cigarettes, and other elaborated tobaccos. In 1915 these last amounted to 37,000,000 cigars and 17,000,000 cigarettes.

Prior to the outbreak of the European war 40 per cent of the exports went to Hamburg, 40 per cent to Bremen, and 17 per cent to Argentina, with practically none to the United States, the figures being as follows: 1913, total, 29,388 metric tons (29,4[illegible] pounds), of which to the United States, 6; Germany, 24,47[illegible]

Argentina, 4,359; Uruguay, 343; 1914, total 26,980, of which to the United States, 192; Germany, 22,133; Argentina, 2,873; Uruguay, 664; 1915, total 27,096, of which to the United States, 1,953; Germany, 1; Argentina, 7,302; Uruguay, 866; The Netherlands, 3,980; and France, 6,581. The shipments made to the United States were largely for re-export and for temporary storage to avoid the tobacco worm prevalent in Brazil. Imports of tobacco leaf, for blending with the domestic leaf, were, 1914, total, $386,069, of which the United States supplied $100,136; Holland, $60,805; Turkey in Europe, $30,818; China, $40,202; and Cuba, $16,012.

## Cuba

While Cuba is not as great a producer of tobacco as certain other countries, the reputation that its raw and manufactured product has achieved has made the name Habana synonymous for excellence of tobacco, a reputation that the island has held since its first discovery. Next to sugar, it is Cuba's most important crop. The manufactures of this staple amounted in 1913 to $29,014,114, of which 387,376,230 cigars were valued at $22,055,008; 289,334,064 packages of 16 cigarettes valued at $6,516,344; 918,590 pounds of cut tobacco, valued at $442,762. In 1914, the total was $23,564,686, of which 312,767,343 cigars were valued at $17,626,391; cigarettes, 247,872,578 packages of 16, valued at $5,574,887; 770,829 pounds of cut tobacco, valued at $363,408, a general decrease in every class. In addition there remained leaf to the amount of $18,093,754 unmanufactured. Of the cigars



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**Picking Tobacco in Cuba**
(Plants grown under cheese-cloth shelter)

manufactured in 1914, 188,816,225 were consumed in Cuba, and 123,951,118 exported. The exports for the year 1914 amounted to $26,353,170, divided as follows: Leaf, $16,584,078; cigars, $9,129,661; cigarettes, $429,147; and cut tobacco, $210,284. Of the leaf tobacco the number of bales exported in 1913 was 322,121; in 1914, 314,732. Of these amounts the greatest buyer was the United States, 1913, 259,758; 1914, 239,922; followed by Germany, 1913, 20,572; 1914, 18,838; Canada, 1913, 16,880; 1914, 7,861; Spain, 1913, 4,518; 1914, 25,802; and Argentina, 1913, 12,102; 1914, 10,281. Of cigars exported in 1913, the number was 183,226,330, the nine countries buying more than 1,000,000 each being: England, 66,842,801; United States, 53,577,563; Germany, 14,028,326; Canada, 13,319,147; France, 9,362,492; Australia, 6,316,505; Spain, 5,428,515; Argentina, 3,928,061; and Chile, 3,488,234. Of the 123,951,118 cigars exported in 1914, the nine countries buying more than 1,000,000 were: England, 43,951,994; United States, 37,732,728; Spain, 8,274,730; Canada, 8,229,412; France, 7,230,825; Germany, 5,187,946; Australia, 5,121,363; Chile, 1,730,502; and Argentina, 1,146,432. In 1915 the total exports of leaf and manufactured tobacco amounted to $24,413,778, a decrease of $1,854,815 in leaf and $1,218,112 in manufactured tobacco, caused in part by the European war and in part by the excessive rains of the winter of 1915. This resulted in a depression among tobacco growers and a disorganization among labor, the result being that many of the plantations have temporarily been planted with sugar cane, due to the great demand for this commodity.

In Cuba the greatest attention has been paid to the scientific raising of tobacco, so that the product of each locality has its special characteristic, it being said that the poorest tobacco grown on the island is equal to the best grown elsewhere. The highest prized, as being the choicest cigar leaf in the world, is the "Vuelta Abajo," grown in the Province of Pinar del Rio, near the western end of the island. It in turn is divided into other classes known as "Mantua," "Remates," "Guane," and "Vinales," all of the heavier type, used in blending. "San Luis" and "San Juan y Martinez," superior wrapping leaves, "Rio Hondo," aromatic, "Consolación del Sur," "Pinar del Rio," and the less desirable grades known as "Bajas," "Consolación del Norte," and "Parti Sur." The annual production of these is about 250,000 bales. Likewise in the province of Pinar del Rio is the "Simi-Vuelta," heavy and aromatic, a favorite with smokers in the United States, and produced to the amount of

about 20,000 bales annually. In the province of Habana, with an annual yield of about 80,000 bales is the "Partidos," lighter in quality than the "Vuelta Abajo," and producing a desirable wrapper leaf. Of its subdivisions, the "Tumbadero" is the most prized, followed by "La Salud," "Artemisa," a filler, "Govea," supplying wrappers, "Bejucal," and its three ordinary classes, "La Seiba," "Wajai Caimito," and "San José de las Lajas." The province of Santa Clara is noted for its "Remedios," a name that is erroneously applied also to tobaccos grown in the province of Camagüey. Santa Clara produced also another excellent leaf, the "Santa Clara," in addition to other classes, less known, called "Cienfuegos," "Colonia," "Santo Domingo," "Sagua," and "Trinidad," all of the last four named being substituted at times for "Remedios." Another, and a medium grade, is the "Sancti Spiritus," also of Santa Clara. The province of Oriente produces the "Yara," the least desirable of all Cuban tobaccos, subdivided into "Mayri" and "Gibari." The annual yield of "Yara" is about 12,000 bales, exported chiefly to Germany, Canada, and Central America. Its leaves are heavy and coarse, and being totally unlike the other grades, is unsuitable for use in cigars for export.

For the purpose of protecting the reputation of tobaccos and cigars produced in Cuba, a law was passed on 16 July 1912, providing for a national collective trade mark on the containers of all tobaccos and tobacco products intended for export, under heavy penalties, and in consequence the Bureau of Agriculture, Commerce, and Labor has recently had registered a distinctive mark for each, "tobaccos and cut tobacco" and "cigars manufactured in Cuba."

## Paraguay

The most widely cultivated, although not the most important, crop in Paraguay is tobacco. Its production was formerly carried on on an extensive scale, and a ready market was found in Europe, particularly in Germany, but due to internal troubles its acreage decreased and until recently it was practically unknown beyond the Paraguayan borders. It is now under the special patronage of the Banco Agricola, the government institution concerned with betterment of agricultural matters. Soils have been analyzed, seeds from Cuba introduced, and scientific instruction given as to the cultivation and handling to meet the demands of export buyers. In 1910 a regulation was passed providing for the classification under the Tobacco Revision Office

(Oficina Revisadora de Tabacos) as follows: "Pito," "Media," "Regular," "Buena," "Doble," "Pará 1a," "Pará 2a," and "Fuerte," the "Pito" to "Buena" being mild, and "Doble" to "Pará" strong, to standardize the production and prevent fraud, unclassified exports being subject to a special export tax.

The exports in 1900 amounted in pounds to 6,590,644; 1901, 5,103,265; 1902, 6,200,014; 1903, 7,012,870; 1904, 9,997,724; 1905, 7,980,119; 1906, 5,076,104; 1907, 3,391,762; 1908, 10,977,164; 1909, 10,580,998; 1910, 11,259,230; 1911, 14,219,781; 1912, 8,842,216; 1913, 11,897,609; 1914, 9,908,921; and 1915, 15,675,610. The great bulk of the lighter grades is exported to Europe, more than half going to Amsterdam. Of the heavier grades Argentina is the greatest buyer.

## Chile

In the year 1913 there were under cultivation in Chile 3,430 acres of tobacco, producing 8,523,645 pounds. For 1914, with a slightly smaller acreage, the production was 6,282,228 pounds. All of this was consumed in the Republic. In addition there were imported in 1913, 411,031 pounds of tobacco, valued at $456,384, of which 115,181 pounds were cigarettes, valued at $229,032; 67,623 pounds cigars, valued at $111,943; 156,762 pounds, leaf tobacco, valued at $77,913; and 71,465 pounds cut tobacco, valued at $41,406. The cigarettes were imported from 16 countries, of which France supplied 27,119 pounds, Belgium, 25,097 pounds, Cuba, 24,286 pounds, Great Britain, 19,923 pounds, Germany, 9,217 pounds, the remainder by other countries, the United States being credited with 888 pounds. Of the cigars, Cuba supplied 36,854 pounds, Italy, 7,553 pounds, Germany, 8,305 pounds, France, 3,640 pounds, Panama, 3,494 pounds, Great Britain, 3,225 pounds, and Belgium, 3,045 pounds, the remainder being distributed among seven other countries, the United States supplying 547 pounds. Of the leaf tobacco, Cuba supplied 131,548 pounds, Germany, 11,224 pounds, the United States standing third with 3,741 pounds, the remainder being distributed among eight other countries. Of the cut tobacco, Cuba supplied 22,297 pounds, France, 14,850 pounds, Belgium, 11,173 pounds, Great Britain, 11,164 pounds, the United States standing fifth with 6,292 pounds, the remainder being distributed among six other countries. According to the United States Commerce Reports, the imports in 1914 of leaf tobacco amounted to $66,135, cut tobacco, $40,369, cigars, $78,876, and cigarettes, $157,106, a total of $342,486; and in 1915, the imports of leaf and cut tobacco amounted to $129,377,

In 1913 there were 192 tobacco factories in Chile, of which 59 were located in Valparaiso and 61 in Santiago, 129 being of Chilean ownership and 63 belonging to foreigners. The number of persons employed was 1,960, and the value of their production, from foreign and domestic leaf, was $3,338,807. The greater part of the manufactures was of cigars, with a small proportion of cigarettes, and a still smaller one of smoking tobacco. The favorite form of tobacco is the cigarette, the domestic being the cheapest. Of the foreign brands, nearly all the well known English cigarettes are sold, as well as the French, Italian, Cuban, Turkish, and Egyptian, the black Cuban type being a favorite with a large percentage. Of cigars, the Cuban and Mexican are most popular. At the present time many of the lighter brands of European cigars and cigarettes are unobtainable on account of the war, a deficiency that is beginning to be supplied by the United States.

## Colombia

With proper encouragement, Colombia promises to be one of the important tobacco producing countries of America, as the plant thrives in almost every portion of the country. It is even claimed that certain small sections produce a quality rivaling the Cuban tobacco. Due, however, to the failure to adopt approved scientific methods of raising, handling, and grading, the qualities of the better grades are not uniform from year to year, and for export purposes the whole crop is considered under one standard — a leaf of average quality, largely used as filler. The country produces more than sufficient for domestic consumption, quantities being raised near the coast and in the Department of Santander, while the leaf of the best quality comes from the district of Ambalema, where also the greatest quantity of tobacco is found.

The exports of tobacco (mostly leaf) in 1913 amounted to 13,811,000 pounds (estimated); and in 1914, to 5,806,737 pounds, valued at $393,096; 1915, 4,562,122 pounds, valued at $334,642. Of the total amount, 5,089,342 pounds, exported in 1914, from the port of Barranquilla, 5,089,893 pounds were consigned to Europe, and 15,449 pounds to the United States. Of the amounts shipped from the port of Cartagena in 1914 and 1915, the respective figures are as follows: France, $378 and $52,476; Germany (1914 only), $149,371; Great Britain (1915 only), $29,583; United States, $3,051 and $31,810; other countries, $26,100 and $25,404. During the fiscal year ending 30 June 1916 the amount exported to the United States was $35,325, of which $1,013 was cigar wrappers and $34,325 leaf.

The decline of exports following 1913 is indicative also of the reduction of the quantity raised, the reduced demand by Germany — the greatest customer — being discounted by the utilization of much of the former tobacco acreage for other purposes. Notwithstanding this, the immediate result of the European war was the sharp breaking in prices, in June 1915, being as low as $0.06 per pound, a fact that has been discouraging to the industry. Some relief is afforded, however, to the native industry by the increase (1915) of duties on imported tobaccos, leaf and manufactured, from 80 cents to $1 per kilo (2.2046 pounds), in connection with the high internal revenue taxes. There is necessarily a demand for foreign tobaccos for blending purposes, in addition to special demands for the manufactured product. Of manufactured and leaf tobacco imported in 1915, amounting to $148,433, the United States furnished a large percentage.

### Costa Rica

The importance of the banana and coffee industries in Costa Rica has made of tobacco growing a lesser industry serving at present for domestic demands. This notwithstanding the fact that its production is a success, the climate and soil being favorable. In 1914 the number of acres under tobacco cultivation was 2,734. Partly as a means of revenue, and partly to protect the domestic tobacco interests, the Government has levied a very high duty on the imported product — about $0.85 per pound, plus a surtax of five per cent on imports for consumption at Port Limon. The result has been that, due to the high prices necessarily demanded for imported tobaccos and cigars, local factories have been lately established throughout the Republic, a very large one being located at San José. This local demand has encouraged the growing of the native leaf, with a result that imports have decreased by half, the imports being largely of foreign cigars and cigarettes for which there is a special demand. The quantity of tobaccos exported is negligible. The imports through Port Limon in 1914 amounted to $124,000 of which the United States supplied $52,000, Germany, $15,000, Great Britain, $18,000, and France, etc., $39,000. For 1915, the imports at the same port amounted to $37,100, of which the United States supplied $31,200, Great Britain, $10,100; and France, etc., $5,900.

### Dominican Republic

Of all the Latin American countries, the Dominican Republic at present, ranks third in the raising of tobacco, the production

for 1913 being 28,000,000 pounds, and the normal yield annually being 17,250,000 to 23,000,000 pounds. Due, however, to internal troubles, the production decreased somewhat in 1914 and 1915, the yield for the latter year being between 6,900,000 and 8,050,000 pounds, which was increased in 1916 to (estimated) between 23,000,000 and $25,000,000 pounds. For 1917 the acreage has been increased, but, due to a season of drought, it is estimated that the yield will not exceed that of 1916.

The exports of tobacco leaf from the country in 1913 amounted to 21,539,876 pounds, valued at $1,121,775, of which Germany received 20,099,803; the United States, 285,412; France, 355,400; and other countries, 788,260. In 1914 the amount exported was 8,152,208 pounds, valued at $394,224, of which Germany received 7,286,382; the United States, 128,953; France, 78,492; and other countries, 653,981. In 1915, 13,717,900 pounds, valued at $972,896, of which the United States received 7,624,839; France, 1,944,872; and other countries, 4,146,188. In 1916, 17,438,332 pounds, valued at $1,433,323, of which the United States received 6,825,584; France, 1,278,746; and other countries (unspecified), 9,334,002.

## Ecuador

Ecuador produces some excellent qualities of tobacco, it being claimed that for delicacy of flavor they are the equal of the best Cuban. The acreage, is scarcely more than enough for domestic requirements, and the methods of raising and handling are not such as bring out its best qualities. The greatest quantity is raised in the Guayas fluvial region and in the Province of Esmeraldas.

In 1914, 107,616 pounds of leaf tobacco, valued at $19,922, were exported, the amount for 1915 being 596,445 pounds (to Peru), valued at $89,825, an increase that is due to the encouragement of the government.

In October 1915, a law was passed, effective 1 Jan. 1917, for the government control of the tobacco industry, raising, manufacturing, and selling, on the basis of concessions to producers and selling agencies. By its provisions, the production and manufacture are exempt from all fiscal taxes; written notice to the competent authority is required of all persons desiring to raise tobacco, and license is given without charge. Subject to confiscation, tobaccos and products may not be transported from one place to another, even in the same town, without a permit. Taxes were provided for all tobaccos on hand on 1 Jan. 1917, and in the future the privilege of selling tobaccos is to be auctioned

annually, for the various districts or Provinces, or for the whole Republic, fiscal taxes being likewise imposed upon the concessions, varying from $87.60 to $4,672.

### Guatemala

In quality, Guatemalan tobacco ranks high. Due, however, to antiquated methods of handling it, it has not acquired the commercial value that its qualities merit. It is raised throughout the Republic, but the favorite leaf is produced in the vicinity of Zacapa, at Barberina and vicinity, and also at Chiquimulilla on the west coast. The quantity raised in 1903 was 1,065,000 pounds. The total annual production has recently been estimated (1916) at from 250,000 to 300,000 pounds, when, judging by the quantity manufactured, it should be five times this. Due to the high duties on imported tobacco and its products, the domestic leaf is largely used in the local factories, although a very large quantity is imported from Honduras, which is incorporated with the native leaf in the manufacture of cigars and cigarettes for export. Rapid progress has been made during recent years in the manufacturing of tobacco, both as to the quantity worked and the methods employed. While the small factory predominates, there being hundreds of shops producing hundreds of thousands of fine and ordinary cigarettes, there are also 4 machine-made factories in the country, producing an aggregate of 640,000 cigarettes per day. To protect the small shop, the Government on 23 Nov. 1916, issued a notice requiring the payment of a tax of one centavo on each box of machine made cigarettes.

All domestic cigars are made by hand, the industry being an important one. Guatemala and Honduras tobacco are generally used, with a Sumatra wrapper bought in the United States. Most of the ordinary cigars are made by Indian women and children, whose labor is cheap, some of the cigars selling as low as $2 per thousand; those of better quality sell for from $0.02½ to $0.05 each. The cheapest machine made cigarettes sell for about $1 per thousand. The domestic consumption of both cigars and cigarettes is large.

In 1915 Guatemala imported leaf tobacco to the value of $2,575; manufactured, $10,398. Of the leaf tobacco, $2,205 worth came from the United States, the remainder from Holland. Of the tobacco manufactures, the United States supplied $4,265; Cuba, $3,262; Germany, $950; Mexico, $760; England, $827; Jamaica, $163; and the remainder from Holland, France, Japan, and China. As showing the consumption of cigarettes in the

country, the imports of cigarette paper for 1915 amounted to $29,666, of which Spain supplied $26,311 worth; the United States, $1,637; the remainder coming from Germany, England, and Denmark. During the same year exports amounting to $18,954 were made to the United States, Colombia, Honduras, and British Honduras. Of this, $13,054 was manufactures, and $5,900 leaf tobacco.

### Honduras

Statistics regarding the production of and trade in tobacco in Honduras are lacking, but from the reports of the United States consular agents in that country and Guatemala (see elsewhere in this article), it is apparent that tobacco of a commercially fine quality grows in the country, but that through poor methods of curing it has not generally become an article of world export, but is sufficient for domestic needs. A large quantity is shipped to Guatemala, where it is manufactured, some of it being returned and some re-exported, and Peru. In 1913–14 there were imported tobacco and tobacco manufactures to the value of $17,146, of which the United States contributed $10,386; 1914–15, $20,520, of which the United States contributed $13,436.

### Mexico

The revenues derived from the profits of the tobacco monopoly in Mexico amounted, in 1783, to $777,651; and in 1801–02, to $4,000,000 silver, the monopoly of the tobacco industry having been a prerogative of the Crown from the time of the Spanish conquest. With independence, the industry languished until 1868, from which time it has gradually increased. In 1889, Mexican tobacco obtained the gold, silver, and bronze medals at the Paris Exposition, being adjudged superior to the best Cuban leaf. Later, the French government gave official notice through "la Regie," the special Department concerned with the monopoly, that Mexican tobacco was acceptable for its uses.

In Mexico the use of tobacco is universal, and its consumption large, with the result that large quantities are raised of which no estimates are given. Being of universal use, it is grown everywhere. Experts credit the District of San Andres Tuxla, in the State of Vera Cruz, with the leaf of the choicest quality. The soil here is similar to that of the Vuelta Abajo in Cuba. In the Tuxla section, however, the same care has not been shown in the cultivation and handling of the leaf, for which reason it has failed of general commercial demand. Despite the fact of cheap and

unscientific labor and methods, Mexican tobacco for years has been an article of export in the markets of the United States and Europe. Until the present troubles in Europe and domestic political dissensions, the chief European markets were Hamburg and Havre, with a growing demand in England. At Hamburg, the Valle Nacional leaf, selected, grown by Government convict labor, sold for $0.18 per pound, at which figure it was in great demand.

Recent figures as to the yield and export are not obtainable. In 1906, the estimated crop of the chief tobacco districts amounted to 26,180,000 pounds, divided among the following districts: San Andres Tuxla, 3,300,000 pounds; Acayucan Talixpam, 759,000 pounds; Cordoba, 7,700,000 pounds; Tlapacoyan, 3,795,000 pounds; Tepec, 3,795,000 pounds; Ojitlan, Valle Nacional, 3,530,000 pounds; Playa Vicente, 3,530,000 pounds; other districts of Oaxaca and Chiapas, 1,265,000 pounds; and districts of San Luis Potosi, 506,000 pounds. The foregoing was but a small part of the crop for the year, as figures are not given for the remainder of the Republic. During the fiscal year ending 1911, the exports of tobacco (leaf and manufactured) to the United States amounted to $14,011; 1912, $31,039; 1913, $43,331; 1914, $58,941; 1915, $77,003; and 1916, $142,383.

## Peru

The tobacco industry in Peru is a government monopoly, the special department having charge of same being known as the Estanco del Tobaco, founded in 1904. Since 1909 it has been administered by the Compañia Recaudadora de Impuestos (National Tax Collecting Company) under contract for a term of years. The territory devoted to the cultivation of tobacco is designated by law, and the importation, manufacture, and sale of all forms of tobacco are in the hands of this company. In addition to this control, the government is otherwise encouraging the tobacco industry. In the latter part of 1916, the government issued an order through the Department of Fomento (National Industry) commissioning two Peruvian graduate students to spend a year in Cuba to study the practical cultivation and handling of tobacco, to the end of introducing the approved scientific methods of carrying on the industry in Peru.

The prices for tobaccos of all kinds are fixed by the government. The greatest and best quality of leaf is grown in the Provinces of Huancavelica and Tumbes, the former supplying the government in 1915 with 619,490 pounds, and the latter with 421,600 pounds. In addition there was imported from Ecuador

596,445 pounds and 82,895 pounds from Honduras. In 1914, the quantity of domestic leaf used was 798,659 pounds, there being imported in addition 65,714 pounds from Ecuador and 101,707 pounds from Honduras. Of cigarettes, the domestic manufacture in 1914 amounted to 404,429,700; cigars, 175,400. In 1915 the respective numbers were 369,299,052 and 152,100. The average cost of the domestic cigarettes was $0.74 per thousand. During 1914, there were imported 38,825,232 cigarettes; 1915, (estimated) 8,800,000; cigars, 1914, 245,814; 1915, 31,099, the great bulk of each coming from Cuba, most of the remainder from England.

## Venezuela

The production of tobacco for domestic consumption is carried on throughout Venezuela, in addition to which an export of more than 200,000 pounds is made annually, the greater part, until the European war, to Germany. The tobacco of Capadare, a special district, is noted for its strength and aroma, and by some is preferred to Habana tobacco. Besides Capadare, tobaccos of excellent quality are raised in the districts of Yaritagua, Mérida, Cumanacoa, Guanape, Maturín, Upata, Aragua, Carabobo, Barinas, Rio Negro, Caripe, and the Federal District. The greater part used in the country is of domestic manufacture, Cuban and Virginia leaf being imported for blending. The imports of leaf and manufactured tobacco in 1914 amounted to $10,912; 1915, $3,643.



Tobacco Fields in Porto Rico

(The White Surfaces are the Coverings of Cheese-cloth)

# The Coffee Industry in Latin America

THE coffee crop of the world, according to the New York Coffee Exchange, amounts to about 2,403,324,000 pounds, or 18,207,000 bags of 132 pounds each annually. The crop of 1915–16 was above the average and is estimated at 2,487,792,000 pounds, or 19,756,000 bags. Of the total world's crop marketed in 1915–16 (19,192,317 bags) the United States took 47 per cent and Europe 53 per cent. And of the total taken by the United States (9,099,276 bags) 8,973,863 bags, or 98.6 per cent, were the growth of Latin American countries, while we received only 125,413 bags or 1.4 per cent from all other countries.

The following will show the amount of coffee in bags of 132 pounds imported into the United States from Latin America, and all other countries during the past five years:

| Year | Total All Kinds | From Latin America | From other Countries | % Latin America |
|---|---|---|---|---|
| 1915–16 | 9,099,276 | 8,973,863 | 125,413 | 98.6 |
| 1914–15 | 8,474,928 | 8,328,331 | 146,597 | 98.3 |
| 1913–14 | 7,587,336 | 7,415,975 | 171,361 | 97.7 |
| 1912–13 | 6,538,869 | 6,366,861 | 172,008 | 97.4 |
| 1911–12 | 6,706,070 | 6,249,218 | 456,852 | 93.2 |

## Brazil

Coffee is by far the most important product of Brazil, and constitutes fully 60 per cent of the total value of all exports. Not only is coffee the leading product, but Brazil leads the world in the production of this staple, its average crop the past five years being 72 per cent of the world's crop for the same period.

The States producing the bulk of the coffee crop are São Paulo, Rio de Janeiro, Minas Geraes, and Bahía. Of the total crop the São Paulo district produces about 80 per cent, the Rio de Janeiro district 15½ per cent, and the Bahía and Victoria districts 4½ per cent. Thus, in 1915 it is estimated that the crop of the São Paulo district amounted to 14,000,000 bags (132 pounds each), that of the Rio de Janeiro district to 2,750,000 bags; and that of the Bahía and Victoria districts to 750,000 bags.

The largest crop ever produced in Brazil was that of 1906–07 amounting to 19,654,000 bags, or 2,594,328,000 pounds, but in

recent years the crops have averaged much less than this, the average production for the past five years being about 13,125,000 bags, or 1,732,500,000 pounds.

The importance of the coffee crop as a source of wealth to Brazil may be illustrated by the following tabular statement showing the value of coffee exported as compared with that of other exports:

| Year | Value of Coffee Exports | Value of other Exports | Coffee's Percentage to Total |
|---|---|---|---|
| 1910 | $127,212,875 | $182,793,563 | 41.0 |
| 1912 | 225,992,915 | 136,253,036 | 62.4 |
| 1913 | 197,936,296 | 115,691,782 | 63.1 |
| 1914 | 129,713,673 | 91,825,356 | 58.5 |

The following table shows the exports of coffee (in bags of 132 pounds each) from Brazil to the various countries named during the years ended 31 July 1914, and 31 July 1915. It is interesting to note changes in the markets brought about by the European war:

| Country Exported to | 1914 bags | 1915 bags |
|---|---|---|
| United States | 5,817,628 | 5,880,619 |
| France | 1,902,647 | 1,808,815 |
| Sweden | 245,851 | 1,346,839 |
| Italy | 240,844 | 688,252 |
| Great Britain | 272,493 | 479,701 |
| Norway | 36,375 | 306,669 |
| Denmark | 45,413 | 279,865 |
| Argentina | 240,932 | 261,457 |
| British S. Africa | 123,690 | 183,457 |
| Greece | 7,500 | 117,800 |
| Spain | 106,475 | 111,843 |
| Egypt | 51,820 | 85,310 |
| Uruguay | 35,654 | 52,763 |
| Algeria | 72,758 | 49,425 |
| Chile | 26,684 | 39,692 |
| Gibraltar | 12,200 | 14,100 |
| Turkey in Asia | 64,682 | 2,550 |
| Rumania | 11,813 | 2,220 |
| Turkey in Europe | 70,122 | 2,000 |
| Russia | 18,913 | 800 |
| Germany | 1,876,138 | ..... |
| Austria | 1,033,173 | ..... |
| Belgium | 522,195 | ..... |
| All others | 53,352 | 56,170 |
| Total | 14,533,581 | 13,401,515 |

A comparison of the exports for 1915 with those of 1914, the year immediately preceding the war, shows a decrease of only 1,132,066 bags, or 7.7 per cent. The increase of 1,665,334 bags exported to Scandinavian countries may be accounted for by the cessation of any direct exports in 1914 to Germany and Austria. The United States continues to be the largest purchaser of Brazilian coffee, the average imports from that country the past five years amounting to 5,646,000 bags, or nearly 45 per cent of the entire crop, while it is 75 per cent of the 7,496,000 bags the average imported into the United States from all sources the past five years.

## Colombia

Of all the Latin American Republics, Colombia ranks next to Brazil both in the production and exportation of coffee. Of the average value of all exports from 1911 to 1914, inclusive, amounting to $24,309,000, the average value of coffee for the same period was $12,144,000, or 50 per cent of the whole.

The coffee crop of the Republic averages about 126,456,000 pounds, or 958,000 bags (132 pounds each) annually. About 25,000 bags are retained for home consumption, the remainder being shipped to the United States and to European countries. The United States is Colombia's best customer for its coffee crop, its imports from that country averaging more than 70 per cent of the annual production. The imports in 1915–16 amounted to 109,363,456 pounds and in 1914–15 to 111,077,449 pounds.



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A Steamship of the American Line Taking on Cargo of Coffee at Santos, Brazil

The principal coffee producing districts are the Department of Cundinamarca, which produces the renowned Bogotá brand; the Ocana, Cucuta, and Bucaramanga districts, in the Department of Santander, and in the Tolima and smaller valleys of the Cordilleras. It is estimated that there are 125,000,000 coffee plants in these districts, and as they are valued at 30 cents each, they represent an investment of $37,500,000.

### Guatemala

Coffee is the principal crop of Guatemala. The districts best suited to its culture are Antigua, Barbereno, Costa Chuva, Alta Verapaz, Costa Cuca, Costa Grande, Pochuta, and Tumbador. In some of the districts coffee of very fine quality is grown at an altitude of 5,000 feet, but the yield of the trees is comparatively light. The total area under cultivation is about 98,800 acres. Germans own and control between 50 and 60 per cent of the plantations. The best coffee is grown in the Department of Alta Verapaz.

The total production of coffee in Guatemala in 1913 amounted to 104,623,600 pounds, and in 1914 to 91,852,200 pounds. Prior to the European war about three-fourths of the crop was marketed in Europe, Germany, as might be expected, taking much the largest share. The following statement shows the exports to the various countries just prior to the war, 1913:

| Exported to | Pounds | Bags |
|---|---|---|
| Germany | 53,765,128 | 407,311 |
| United States | 21,400,385 | 162,124 |
| Great Britain | 10,773,165 | 81,615 |
| Austria-Hungary | 4,247,353 | 32,177 |
| South America | 1,824,060 | 13,819 |
| Netherlands | 412,484 | 3,125 |
| France | 143,723 | 1,089 |
| Total | 92,566,298 | 701,260 |

During the past two years special efforts have been made to create a greater demand for Guatemalan coffee in the United States, which have met with marked encouragement. In 1915 the United States imported from that country 60,363,716 pounds of coffee, which was an increase of 15,758,677 pounds, or 35 per cent over the previous year, and was 66 per cent of the entire crop. It has been estimated that in 1916 the United States took from 75 to 80 per cent of the coffee produced that year.

## Costa Rica

Coffee planting has been carried on in Costa Rica for many years, and until banana culture assumed its present proportions was the leading industry. At one time as much as 45,000,000 pounds were produced, but the crops now average much less, due to the enormous crops of other Latin American countries and the consequent fall in value. But Costa Rican coffee is still highly prized in Europe, especially in England where, on account of its exceptional quality and flavor, it commands a good price. According to a recent official publication the total exports from all Costa Rica from August 1915 to April 1916 amounted to 37,134,182 pounds. The exports for the years 1911–12 to 1915–16, inclusive, were as follows:

| Year | Pounds | [illegible] |
|---|---|---|
| 1911–12 | 26,979,893 | 264,291 |
| 1912–13 | 28,702,108 | 217,440 |
| 1913–14 | 39,058,444 | 295,897 |
| 1914–15 | 26,910,407 | 203,867 |
| 1915–16 | 37,134,182 | 281,320 |



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Coffee Drying in Costa Rica

Of the amount exported in 1915–16 Great Britain took 50 per cent, the United States 42 per cent, the remainder going to France, Spain, Italy, Panama and Chile. Prior to the European war (1913) Germany was the second best market for Costa Rican coffee; but the United States has now taken this rank, its imports in 1915–16 having reached 13,292,365 pounds, which is 6,521,400 pounds, or 92 per cent greater than the imports in 1914–15, and

9,269,000 pounds or 230 per cent in excess of the imports in 1913-14. Almost one-half of the coffe crop of Costa Rica is raised in the Province of San José on the Pacific coast.

## Nicaragua

The value of coffee production in Nicaragua, as compared with other products, is indicated by the export statistics for the past five years which show that of the total average value of all exports coffee represents 55 per cent. The following tabular statement gives the quantity and value of coffee exported to different countries in 1913 and 1915, and indicates the changes that have resulted from the European war:

| Country | Pounds | Bags (132 lbs) | Value |
|---|---|---|---|
| France (1913) | 10,293,437 | 77,981 | $1,715,186 |
| " (1915) | 4,382,319 | 33,199 | 607,737 |
| Germany (1913) | 7,653,182 | 57,979 | 1,844,262 |
| " (1915) | ..... | ..... | ..... |
| Great Britain (1913) | 3,321,692 | 25,164 | 595,613 |
| " " (1915) | 4,068,766 | 30,824 | 409,171 |
| United States (1913) | 3,715,012 | 28,144 | 615,644 |
| " " (1915) | 6,393,693 | 47,755 | 668,393 |
| Italy (1913) | 621,667 | 4,711 | 97,445 |
| " (1915) | 3,045,698 | 23,074 | 258,166 |
| Other Countries (1913) | 662,028 | 5,015 | 122,845 |
| " " (1915) | 626,626 | 4,747 | 64,317 |
| Total (1913) | 26,267,018 | 198,994 | $4,990,995 |
| " (1915) | 18,427,102 | 139,599 | 2,007,784 |

Nicaragua's coffee trade with the United States has grown immensely within the past five years, the imports having increased from 1,144,182 pounds in 1911-12 to 9,074,757 in 1915-16, or 693 per cent in the five years. The United States has meanwhile become Nicaragua's best customer for her chief staple.

## Venezuela

Great efforts have been made in recent years to increase the coffee bearing area of Venezuela. The crop of 1910 amounted to about 440,920 bags. Of this about 160,000 bags were expected to be received at the ports of La Guaira, Puerto Cabello, Guantu and Sucre, and the balance from Maracaibo, Vel de Coro, etc. The exports from Maracaibo in 1911 were 54,716,265 pounds, of which 47,062,068 pounds were sent to the United States. In 1912 the

exports were 71,457,942 pounds, of which the United States took 50,273,888 pounds. The average exports for the preceding 10 years, 1902–11 was 53,130,326 pounds. The imports of coffee from Venezuela since 1911–12 into the United States are as follows, in bags of 132 pounds each: 1911–12, 356,890; 1912–13, 376,296; 1913–14, 378,435; 1914–15, 548,963; 1915–16, 556,101 bags, the increase in the five years amounting to 199,211 bags or nearly 56 per cent.

## Ecuador

While the quantity of coffee produced in Ecuador does not compare with that of most other South American countries, it is still one of the most valuable agricultural products of the Republic. Considerably more than half of the crop is sent to Chile. The following shows the distribution of the crop to various countries in 1914 and 1915:

| Country | 1914 | 1915 |
|---|---|---|
| Chile | 2,768,317 lbs. | 2,528,834 lbs. |
| France | 1,323,725 " | 599,938 " |
| United States | 808,815 " | 175,143 " |
| Spain | 767,298 " | 558,956 " |
| Great Britain | 466,979 " | ..... |
| Panama | 193,536 " | 478,077 " |
| Germany | 146,260 " | ..... |
| Italy | ..... | 287,833 " |
| Peru | ..... | 16,437 " |
| Total | 6,474,930 " | 4,645,218 " |

## Mexico

The coffee crop of Mexico, which may be produced in the highland regions throughout the Republic, varies from 77,000,000 to 110,000,000 pounds annually, about 40,000,000 pounds, or 43 per cent, being exported, and the remainder held for home consumption. Of course the amount of the latter is largely controlled by the market price of the product, Mexican coffee of the best brands being highly esteemed. The imports of coffee from Mexico into the United States since 1911–12 is as follows in bags of 132 pounds each: 1911–12, 258,758; 1912–13, 197,890; 1913–14, 374,133; 1914–15, 399,289; 1915–16, 377,521 bags. This shows an increase in the five-year period of 118,763 bags, or about 46 per cent.

## Salvador

The coffee crop of Salvador, as represented by its exports, in 1910–11 amounted to 74,000,000 pounds, of which 64,000,000 were exported and 10,000,000 retained for home consumption. The crop of 1911–12 is estimated at approximately 70,000,000, of which 60,000,000 were exported and 10,000,000 held for home consumption. According to government statistics the average exportation of coffee for the past 10 years is 60,533,377 pounds, and the average production 70,533,377 pounds, or 534,344 bags of 132 pounds each. The imports of coffee into the United States from Salvador since 1911 in bags of 132 pounds are as follows: 1911–12, 86,466; 1912–13, 66,335; 1913–14, 66,353; 1914–15, 119,874; 1915–16, 88,298.

## Haiti

The coffee industry of Haiti has been seriously affected by the continuous political upheavals of recent years. Only 10 years ago nearly 60,000,000 pounds of coffee were exported to the United States, whereas we received from that Republic last year only 3,320,000 pounds, and an average of only 3,585,000 pounds the past five years.

## Other Countries of Latin America

The coffee crops of the other and lesser producing countries may be illustrated by the exports from each to the United States during the past three years, as follows (in bags of 132 pounds each):

| Country | 1913–14 | 1914–15 | 1915–16 |
|---|---|---|---|
| Dominican Republic | 20,785 | 27,048 | 8,130 |
| Panama | 4,959 | 7,659 | 2,337 |
| Honduras | 3,974 | 5,945 | 5,037 |
| Cuba | 82 | 2,151 | 108 |
| Chile | 196 | 1,921 | 1 |
| Peru | 2 | 537 | 1 |
| Argentina | 111 | [illegible] | 650 |

# Sugar Industry in Latin America

By James L. Watkins

THE cane sugar production of the world for the past few years has averaged approximately 10,280,000 tons or 22,670,400,000 pounds. Of this quantity the countries of Latin America — not including any foreign possessions in America — produce about 4,138,000 tons or 9,124,290,000 pounds, which is equivalent to more than 40 per cent of the world's total crop of cane sugar. The following tabular statement fairly represents the cane crops of the countries named (in tons):

| | | | |
|---|---|---|---|
| Cuba | 3,000,000 | Mexico | 80,000 |
| Argentina | 336,000 | Central America | 35,000 |
| Peru | 263,000 | Venezuela | 20,000 |
| Brazil | 240,000 | Paraguay | 2,821 |
| Dominican Republic | 150,000 | Colombia | 1,867 |

The United States, the largest consumer of sugar per capita of all other countries, in 1915–16 imported from all sources 2,455,366 tons or 5,414,081,941 pounds of cane sugar, and of this quantity 2,451,329 tons or 5,405,180,430 pounds were imported from Latin America, leaving only 4,037 tons or 8,901,585 pounds brought in from all other countries. Our imports from Latin America have increased from 1,963,485 tons in 1912–13 to 2,451,329 tons in 1915–16, or 25 per cent.

## Cuba

The Republic of Cuba is now the largest cane-sugar-producing country in the world. For a long time it ranked next to British India, but since the establishment of the Republic it has risen to the first rank. These two countries together furnish approximately one-half of the world's supply of cane sugar, each producing from two to more than three million tons.

Climatic conditions and the soil of Cuba are so well adapted to the growing of sugar cane, that nearly one-half of the tillable area of the island is devoted to this crop. The cane matures in from 12 to 18 months, but the crop is so planted that it is harvested more or less throughout the year, though the principal harvest season is from December to June. The lands in the Western Provinces have been planted in cane so many years and have

become so impoverished that not more than four to seven crops can be harvested without replanting. In the newer and richer lands of the Eastern Provinces 10 or 12 crops and sometimes twice as many may be harvested without replanting.

Recent statistics show that the yield of sugar per acre was 4,900 pounds harvested from 1,384,812 acres. The Cuban sugar factories have been greatly improved within the past few years. Keen competition has forced Cuba to adopt more economical methods in the manufacture of sugar, and this has resulted in an almost constant decline in the number of factories, but an increase in their size and capacity. Some years ago there were 473 factories but now there are only 190 to 200. The plantations are equipped with private railway lines to transport the cane from the fields to the factories. There are approximately 3,000 miles of these railways.



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**Cuban "Central" or Sugar Mill**

Recent statistics show that of the total area under cane about 56 per cent was either cultivated or controlled by the factory owners, while 44 per cent was cultivated by independent farmers who sold their cane to the factories. As an incentive to produce high grade cane it is paid for according to the sugar content and not the gross weight.

During the 10 years ending with 1912-13 there was an average of 175 factories in operation, which ground an average of 15,925,000 tons of cane annually and produced 1,687,000 tons of sugar, or 3,778,880,000 pounds annually. The production since 1912-13 in tons is as follows: 1916-17, 3,000,000 tons;

1915–16, 3,007,915 tons; 1914–15, 2,592,667 tons; 1913–14, 2,597,732 tons.

The greater portion of the Cuban crop of sugar is exported, the average the past 20 years being about 95 per cent, of which the United States has taken about 90 per cent. In 1913 the United States took 2,129,748 tons valued at $107,975,360, and 2,164,621 tons valued at $116,479,869 in 1914. Great Britain took 240,870 tons, valued at $12,598,817 in 1913, and 231,541 tons valued at $10,910,416 in 1914. The total exports in those years were 2,411,188 tons valued at $122,388,062 in 1913, and 2,454,334 tons valued at $130,413,769 in 1914. In 1915 the United States imported 2,136,110 long tons of sugar from Cuba, and 2,299,488 long tons in 1916.

The following values of the sugar crops since 1910 will serve to indicate the remarkable growth of this industry, as well as how prosperity has come to Cuba in recent years:

| | | | |
|---|---|---|---|
| 1910–11 | $84,000,000 | 1913–14 | $130,424,000 |
| 1911–12 | 121,468,000 | 1914–15 | 205,000,000 |
| 1912–13 | 115,395,000 | 1915–16 | 250,000,000 |

## Dominican Republic

The sugar plantations of the Republic are located on the Southern Coast. In the adjoining hinterland are many of the most important sugar centres of the island, namely, Angelina, Consuelo, Porvenir, Cristobal, Colon, Santa Fé and Quisqueya, and the value of the sugar exported through the chief sugar port, San Pedro de Macoris in 1915 amounted to over $3,000,000.

The sugar land extends along the coast, and going westward in the vicinity of the City of Santo Domingo are to be found the centrals Italia, San Isidro and San Louis, and toward the western border of the Republic in the Azua and Barahona district Azana, Ocoa and Ansonia estates. Nearly all of these sugar estates have prospered greatly in recent years. The sugar acreage is increasing annually and new centrals are in process of construction.

The soil is well adapted for sugar cultivation, and produces on an average 25 years of ratoon crops with an output of 70 tons of cane per acre from virgin land during the first year. The sugar season extends from December to June or July. The local labor supply is limited, and in normal times is increased by importations from the nearby British West Indies.

The estimates in tons of the sugar crops of the past three seasons are as follows:

| DISTRICT | 1914-15 | 1915-16 | 1916-17 |
|---|---|---|---|
| Macoris | 75,970 | 91,738 | 112,273 |
| Santo Domingo | 20,205 | 21,925 | 33,906 |
| Azua | 3,472 | 5,071 | 5,812 |
| Total | 99,647 | 118,734 | 151,991 |

The imports of raw sugar into the United States from the Dominican Republic were 1,927 tons in 1914, 34,012 tons in 1915 and 47,992 tons in 1916.

## Peru

The area suitable for growing sugar cane on the west coast of Peru is limited only by the available supply of water for irrigation. There is also a small area east of the Andes planted in cane, but at least 97½ per cent of the crop is grown in the rich valleys along the coast. The crop is planted and harvested throughout the year, but the principal harvest season is from October to February. The cane in the coast region requires 18 to 20 months to mature and from 8 to 12 crops may be harvested from one planting. The area of cane under cultivation is about 101,000 acres. The number of laborers employed in the industry is estimated at 21,881. The average production per hectare of 2.471 acres is a little over 10 metric tons (equal to about 4½ short tons per acre). In the Chicama Valley where there are a number of fine modern mills the production runs as high as 13½ metric tons per hectare (equal to a little more than six short tons per acre).

The growth of the sugar industry of Peru may be seen from the following, showing the yield in metric tons for the years specified of white and granulated, muscovado and Chancaca sugar. The exports for the same years are given as an indication of the growth of this branch of the industry:

| Year. | Production, tons. | Exports, tons. |
|---|---|---|
| 1912 | 192,754 | 147,410 |
| 1913 | 183,954 | 142,901 |
| 1914 | 228,054 | 176,670 |
| 1915 | 262,840 | 220,257 |

The disposition of the crop of 1915 to the various countries was in the following proportions: Chile, 39.93 per cent; United States, 21.69 per cent; Great Britain, 17.80 per cent; Spain, 4.17 per cent; Bolivia, 1.68 per cent; consumed locally or stored, 18.73 per cent.

During the past five years the United States has imported the following amounts of raw sugar from Peru, the imports in the past two years being remarkable as compared with former years: 1911–12, 5,917 tons; 1912–13, 6,201 tons; 1913–14, 3,126 tons; 1914–15, 32,252 tons; 1915–16, 37,549 tons.

## Mexico

Almost the whole of the lowland region of Mexico is adapted to growth of sugar cane, and it is grown in 18 of the 27 States, but approximately one-half of the crop is produced in the two States—Morelos and Vera Cruz. The two other States of most importance are Puebla and Sinaloa. In the lowlands along the coast as many as 10 crops may be harvested from one planting. In this region very little cultivation is needed, and the yield has been as high as 35 tons to the acre. Owing to the disturbed condition of the country the sugar industry has not made the progress that may be noted in other Latin American countries and very little modern machinery is in use. The old open-kettle process being still mostly in use, which extracts only about 6 per cent of sugar per weight of cane.

Notwithstanding the continuous revolutions of recent years the quantity of sugar produced in Mexico increased considerably, until the past two seasons. The crop of 1903–04 decreased from 112,930 to 102,931 in 1905–06, increased to 178,134 in 1910–11, decreased to 167,258 in 1911–12, to 143,000 in 1913–14, and to 121,000 in 1914–15. But the crops of the last two seasons are estimated at only 65,000 tons for 1914–15, and 50,000 tons for 1916–17. The quantity of sugar, in tons imported into the United States from Mexico in recent years is as follows: 1913–14, 922 tons; 1914–15, 34,371 tons; 1915–16, 6,636 tons.

## Brazil

The cultivation of sugar cane, one of the oldest industries of Brazil, owing to increased demand for sugar, has again been revived and promises to assume much greater importance. It is now grown in more than half the States, from the mouth of the Amazon down to the Laguna Mirim. The most flourishing centres of sugar production are in the State of Rio de Janeiro, where Campos is the focus of sugar deliveries, and Pernambuco, a thousand miles farther north; São Paulo has also an increasing sugar industry as may be seen from the following list of large sugar mills in each State: Alagôas, 9; Bahia, 7; Maranhão, 3; Minas Geraes, 7; Parahyba, 2; Pernambuco, 46; Rio de Janeiro, 31;

Santa Catharina, 2; São Paulo, 20; Sergipe, 15; Piauhy, 1; Rio Grande do Norte, 3; total, 139.

The cane is planted at the beginning of the rainy season and is harvested from 12 to 18 months later in the Southern States and from 11 to 14 months in the Northern States. From 4 to 6 crops are cut from one planting. The yield of cane per acre varies from 15½ to 16½ tons, depending upon the character of the soil and season. The sugar extraction is low compared with other cane growing countries and ranges from 4 to 9 per cent of the weight of the cane. The low yield is due mainly to continuous planting in the same soil for many years. The sugar production in recent years is as follows: 1912–13, 343,000 tons; 1913–14, 203,394 tons; 1914–15, 240,000 tons; 1915–16, 194,000 tons.

The principal markets for Brazilian sugars are Great Britain, the United States, Uruguay, Bolivia, Chile, Peru, Cape Verde and France. The exports to the United States increased from 312 tons in 1910–11 to 14,937 tons in 1914–15 and to 9,095 tons in 1915–16.

### Colombia

Sugar cane grows in the rich valleys of Colombia year after year without replanting, and it is said that there are fields in the Valley of Cauca that have been harvested every year for nearly a century without renewal, although in Cuba the cane yields only from 5 to 10 crops, and in many sugar-producing countries it must be set out every year. The yield of each hectare (2.47 acres) is also very high, being 800 to 1,000 quintals (112 pounds), in comparison with 600 to 800 in Cuba, and 900 to 950 in Hawaii; and with irrigation which is available without much difficulty on account of the nature of the land, the yield would be still higher.

There are no statistics available, other than the exports to the United States, that would indicate the production of sugar in Colombia, though it is well known that the industry has shown a rapid development in recent years. The imports into the United States in 1910–11 amounted to 2,447,314 pounds, but for some unaccountable reason there appears to have been no receipts from that country either in 1911–12, 1912–13 or 1913–14. In 1914–15 the imports reached 3,675,812 pounds, and in 1915–16, 3,376,700 pounds.

### Guatemala

Next to coffee, sugar is the most important crop of Guatemala. While the cane flourishes in almost every region from the level of the sea to an altitude of 5,000 feet, the chief sugar districts are in the Provinces of Escuintla, Mazatenango, and Solola,

all on the Pacific coast. The principal variety cultivated, known as "Jamaiquina," was brought into the Republic from Jamaica. The area devoted to sugar in 1916 was 76,352 acres. The average production is about 4,200 pounds per acre. In the Pacific coast region there are 20 sugar mills. The grades of sugar manufactured are 86 to 89 brown sugar, and from 96 to 99 white sugar. The quality is said to be excellent and there is a large local demand for the product. The sugar exported is principally the raw product known as "moscabado." The following are the estimates of the production of sugar in tons for the years named: 1913, 10,884 tons; 1914, 11,338 tons; 1915, 13,605 tons. In 1915 10,918,800 pounds, equal to 4,952 tons were exported, all of which was sent to the United States and Central American countries. The exports to the United States for the years named are as follows: 1913–14, 1,258,202 pounds; 1914–15, 3,193,297 pounds; 1915–16, 3,459,144 pounds.

### Costa Rica

The cane sugar lands of Costa Rica are located in the central and Pacific coast regions. About two-thirds of the cane area is in San José and Alajuela, and one-third on the Pacific coast. The area devoted to cane increased from 25,590 acres in 1905 to 27,636 in 1907–08, to 32,331 in 1910, but decreased to 29,474 in 1914. The high prices and great demand for sugar has, however, undoubtedly resulted in a considerable addition to the area since 1914. This is plainly evident from the fact that Costa Rica exported to the United States 1,598,737 pounds of raw sugar in 1915 and 4,947,289 pounds in 1916, whereas previous to these dates the crops did not meet the local demand and sugar had to be imported every year. The cane grown along the coast ripens in about 18 months, while that grown in the more elevated regions of the interior requires 24 months to ripen.

### Venezuela

The high prices and great demand for sugar have resulted in plans being consummated for its manufacture on a large scale in Venezuela. The progress already made is evidenced from the large increase in the exports of raw sugar the past two years. The sugar plantations in the vicinity of Caracas are all under irrigation, and the same is true in lesser degree of the plantations in the States of Aragua and Carabobo. The most remarkable cane in the Republic grows around, and especially at the south end of Lake Maracaibo, where 4 big centrals are in operation. It is said that the cane at the south end of this lake produces readily for 25 years.

The exports of cane sugar from Venezuela to the United States in 1910–11 amounted to 653,077 pounds and in 1911–12 to 269,530 pounds. There were no exports worth mentioning in either 1912–13, or 1913–14. In 1914–15 there was a revival of this trade and 330,789 pounds were sent to the United States and the year following 8,293,531 pounds.

### Argentina

The cane sugar lands of Argentina are located in the northern part of the Republic, chiefly in the Province of Tucumán, which comprises about 80 per cent of the total area planted. In 1912–13 this province contained 72 per cent of the sugar mills, and produced 84 per cent of the cane and 83 per cent of the sugar. The principal harvest season is from 1 June to 31 October. The yield per acre is estimated at from 10 to 20 tons. The production of sugar increased from 157,513 tons in 1903–04 to 304,389 tons in 1913–14. The domestic supply of sugar in Argentina is approximately equal to the demand. Some years the production exceeds the home demand and the surplus is exported. At other times the short crops necessitate the importation of a considerable quantity, as was the case in 1913 when 83,289 tons were imported, and again in 1916 when 75,000 tons were imported. But meanwhile (1914) 71,308 tons were exported. The government, to encourage the industry, pays a bounty on all sugar exported. A maximum price has been fixed by law which is equal to the import duty; when the price of domestic sugar exceeds the price fixed by law, sugar is imported to equalize prices.

The production of cane sugar the past 5 years is estimated as follows: 1912–13, 221,004 tons; 1913–14, 280,319 tons; 1914–15, 235,833 tons; 1915–16, 152,301 tons.

There are 37 mills in the Republic, with an estimated capital of $31,594,882. The annual sales of these mills is put at $19,841,-655, and the raw material employed is valued at $7,820,907.

### Other Latin American Countries

There are no available data or statistics for other Latin American countries producing cane sugar, but in addition to the countries already reviewed (and excluding European colonies) considerable quantities of sugar are produced in Salvador, Nicaragua, Panama, Haiti, Honduras, and smaller quantities in Bolivia, Ecuador, Paraguay and Chile. The imports from these countries into the United States are given in the introductory table, which will in some degree indicate the production of those countries.

# The Rubber Industry of Latin America

By Richard Ferris

LATIN AMERICA holds the cradle of the rubber industries of the world, in the southwestern section of the great basin of the Amazon, where the "black hevea" is at its best, and Brazil, Peru, Bolivia and Ecuador share in providing its most favored habitat. It was from this region that the first specimens of rubber were sent to Paris by a scientific expedition in 1736. It should be remembered, however, that historical mention of the use of rubber among the native Indians of that country had been made 200 years before, but without attracting serious attention.

Although the rubber production of the Amazon basin has been for the last few years overshadowed by the yield of the great rubber plantations of the East, the seeds, plants and stumps with which those plantations were established came from the Amazon, and to-day the Amazonian hevea (*Hevea Brasiliensis*) occupies 1,500,000 acres in Ceylon, Sumatra, Java, the Malay Peninsula, Southern India, Borneo and Burma.

Notwithstanding even these widespread enterprises in cultivated rubber, the fact remains that the most remarkable rubber producing region of the world lies in the valley of the Amazon. It extends from the Atlantic Ocean on the east to the southern boundary of Colombia on the west, a distance of 3,000 miles. This valley, perhaps 200 miles across at the Atlantic end, broadens toward the south until it is 1,500 miles across, comprising a total area of about 2,400,000 square miles. By far the greater part of this territory lies in Brazil, but parts of Bolivia, Peru, Ecuador and Colombia are included. Practically the whole region is covered with forests, and it is estimated that hardly more than 5 per cent of this vast area has been exploited by the rubber gatherers.

In the larger survey, however, Latin America contributes to the markets of the world six different kinds of rubber from as many different species of plants. Their market names and sources are as follows:

> Para rubber—obtained from several varieties of *Hevea*, chiefly *H. Brasiliensis*, though usually a mixture, sometimes containing rubber from *Sapium Taburu*, and, separately, that from *Micrandia siphonioides;* produced in the states of

Para and Amazonas, the Government province of Acre, and the states of Maranhão and the northern parts of Matto-Grosso and Goyaz, of Brazil; and in Peru, Ecuador, Bolivia, and southeastern Colombia.

Ceara, or Maniçoba rubber, also Ceara scrap — obtained from several species of *Manihot*, mainly *M. Glaziovii* and *M. dichotoma;* produced in northeastern Brazil, chiefly in the state of Ceara.

Colombia Virgen, or Cartagena scrap — obtained from several species of *Sapium*, mainly *S. Tolimense* and *S. verum;* produced in Peru, Colombia, Venezuela, British Guiana, and localities in Central America.

Mangabeira, or Bahia rubber, and Matto Grosso sheets — obtained from *Hancornia speciosa;* widely distributed throughout Brazil, but collected chiefly in the states of Bahía, Pernambuco, and Matto-Grosso, and to some extent in Minas Geraes, Goyaz, and São Paulo.

Caucho rubber, Mexican strips, Centrals, etc.— from species of *Castilloa*, principally *C. Ulei* in Peru and Ecuador, and *C. elastica* in Southern Mexico, Costa Rica, Nicaragua, Honduras, Salvador, and Guatemala, and in Trinidad and Tobago.

Guayule rubber — obtained from the shrub *Parthenium argentatum;* produced in northern Mexico.

In the Amazonian basin, where Para rubber originates, there are three districts in which rubber gathering is active, all lying south of the River and along its southern tributaries: (1) the island section, including the numerous islands forming the Amazonian delta, and yielding what is commonly termed "island rubber;" (2) a district in the neighborhood of Manaos, including the lower reaches of the Rio Purus and the Rio Jurua, and a part of the Rio Negro; (3) the upland districts of Bolivia, Peru and Ecuador. The product of all these districts is known as wild Para rubber, that of the "Up-river" country (above Manaos) being generally "hard cure," and that from the more easterly sections, "soft cure." The wild Para rubber of the Amazon valley is regarded as the best raw rubber supplied to the world's markets. Its excellence is attributed by some authorities to a probable mixing of the saps of several different trees, but by the resident rubber gatherers the superior quality is declared to be due to the soil and climate of the region, which are not duplicated in any of the sections where the same varieties of rubber-producing trees are

cultivated in plantations. Whatever the true reason, the industrial fact is that manufacturers hold that the wild Para rubber of the Amazon is absolutely dependable as to quality, while "plantation Para" needs a certain amount of manipulation before it can be worked through the processes commonly employed with unvarying success for wild Para.

The production of Para rubber is largest in the island district, extending from the mouth of the Amazon about 500 miles up the river, and comprising a multitude of low, tide-flooded islands and the low alluvial shores of the main stream and its affluents from the south. Here the principal rubber-yielding tree is the "white hevea," a variation of *Hevea Brasiliensis*, regarded by botanists as having "migrated" down the River from its original habitat



Cargoes of "Pará" Rubber are Conveyed by These Boats to Steamers Lying out in the Harbor of Pará, Brazil

in the upland region near the headwaters toward the southwest. Its white color is attributed to the peculiar whitish lichens which grow upon its trunk in the down-river country. On the higher lands the lichens are dark gray or black, giving rise to the title "black hevea." This explanation, however, does not account for the decided difference in the cortex of the two trees even when found growing close together, nor for the "red hevea" growing in both districts. The trees are scattered through the forest, generally from 200 to 300 feet apart, although occasionally in groups of two to six. A trail is laid out to cover from 130 to 150 trees, a distance of about six miles. The Hevea sap flows very slowly, and requires from 100 to 150 tappings a season. In some sections a new tapping is made every day, in others every other day. At

the camps the rubber is separated from the sap by drying out the moisture over a smoky fire made in such a way that the smoke contains a considerable proportion of acetic acid and creosote — a slow process. A great saving of time in this coagulation process has been accomplished by the introduction of a new treatment of the raw sap with a mixture of benzine and wood alcohol.

The output of Amazonian rubber is controlled primarily by the cost of getting the rubber to navigable water, and also to a large degree by the reluctance of laborers to go far into the forests. The population which is depended upon for laborers is apathetic, due to an anaemic condition of health, this in turn being the result chiefly of climatic conditions. The rainy season begins in November, and from March to May the entire river country is subject to flooding, in some localities the waters rising as much as 50 feet. Owing to the low gradient the water is very slow in running off. The impossibility of maintaining roads under such conditions operates oppressively against development of the industry. Whatever rubber collecting is done must begin not earlier than May and be completed by the end of October. On the higher lands toward the western and southwestern part of the basin the rainfall is less, and the floods run off more rapidly, and the rubber season is longer. Complaint is made that the average laborer works but 100 days in the season, and that in a large part of the rubber-producing region the work could be and should be carried on for 200 days, adding from 50 to 60 per cent to the annual output.

The figures for the 1916 output of wild rubber in the Amazonian region are only partially complete. They show that in that year 17,747 tons were shipped from Manaos to New York and European ports, and that 38,682 tons were shipped from Para to the same destinations, a total from these two principal ports of 56,329 tons. Of the whole, 20,334 tons went to Europe (26,792 tons in 1915), and 35,995 tons to New York (33,597 tons in 1915). The world's yield of plantation (cultivated) rubber for 1916 is officially estimated at 160,000 tons. The latest available complete figures are those for the fiscal year ended 30 June 1913: they are quoted here for purposes of comparison. The output of the Amazon valley in that year was 43,362 tons. Of this 31,362 tons were produced in the upper rivers section, including parts of the Bolivia and Peru rubber districts, and 12,000 tons in the lower Amazon country. As classified, this output consisted of 16,971 tons (39.12 per cent) of "Fine Hard Para"; 8,860 tons (20.44

per cent) of "Entre-fine" and "Fraca" (medium-fine and weak); 7,400 tons (17.07 per cent) of "Sernamby" (scraps and nigger-heads); and 10,131 tons (23.37 per cent) of "Caucho." Outside of this yield, other Brazilian states shipped about 4,000 tons, mostly Ceara rubber. The total Brazilian output for that year was therefore about 47,000 tons, or about 40 per cent of the world's production.

The territory which produces Ceara rubber includes the Brazilian states of Ceara, Piauhy, and Bahia. The *Manihot* trees from which this kind of rubber is collected thrives on comparatively poor soil, on desert plains, and dry hillsides up to an elevation of 3,500 feet above the sea. It withstands the long drought from May to November, and is indifferent to occasional hoar frosts. There are some plantations of the *Manihot* in Brazil, and tapping is begun as early as the second year. The yield of this district is about 4,000 tons annually.

North of the Amazon the *Hevea Brasiliensis* does not grow in commercial quantity but the *Hevea Benthamiana* is plentiful, and yields an excellent rubber. As a rubber district, however, this territory has not been seriously exploited, except in the Rio Araguaya district near the Atlantic coast. *H. Benthamiana* is plentiful also along the river Tocantins, south of the mouth of the Amazon.

In Colombia there are three rubber-producing districts: in the southern and southeastern section, along the valleys of the Japura and Iea Rivers, and the Rio Negro; in the north, along the valleys of the river Magdalena and its tributaries; and in the northwest, in the basin of the river Atrato. The production is chiefly "caucho" although a considerable quantity of fine Para is collected from the "black hevea" of that section. Heretofore the system of collecting the "caucho" sap has included cutting down the trees, so that the productive area has been constantly diminished. This practice is being regulated by law, and eventually will be abolished. The exports of all rubber from Colombia in 1915 amounted to a value of $91,953.

In Peru the rubber district embraces the Departments of Loreto and San Martin, and parts of Junin, Huanaco, and Cuzco, including the valleys of the rivers Huallaga, Maranon, Ucayali, and Putumayo. This region yields some of the finest Para, and a much larger quantity of the best caucho. In this country there is a dependable supply of laborers — native Indians — to be had at no other locality in the Amazonian basin.

Bolivia's rubber-yielding territory covers the northern part of that country, including the valleys of the Rio Beni, Rio Mamore, Rio Madre de Dios, and other headwater affluents of the Rio Madeira.

The eastern part of Ecuador lies in the most favored section of the Amazonian basin, and produces both fine Para and caucho. On the Pacific Coast near Guayaquil some plantations have been started.

In Venezuela the rubber country lies along the southern border, and along the basin of the Orinoco. The available sources are *Hevea Benthamiana* and *Hevea Guyanensis*. Large plantations have been made in Trinidad and Tobago, but with indifferent results. Other varieties will be tried.

In Panama rubber-gathering is one of the native occupations. The source is a variety of *Castilloa*. In 1915 the exports amounted to 70,604 pounds, valued at $18,874.

In Central America various species of *Castilloa* flourish on both sides of the mountain chain, and small plantations have been established in most of the countries. For some years the collecting of wild rubber was the chief industry of Eastern Nicaragua, but the increasing supply of East Indian plantation rubber in the market has so lowered the price that the pursuit has become unprofitable. The same conditions exist in Honduras, the dealers being unable to pay living wages to the laborers. As a consequence, rubber-gathering has nearly ceased.

In British Honduras the rubber industry is carried on along the banks of the Mullins River, and in the valleys of its tributaries, along the Sittee River and the Rio Grande in the south, and the Sibun River and the upper Belize River in the west. There are also several plantations in the country.

In Mexico, south of the parallel of 22° north latitude, there are no less than nine species of rubber-yielding *Castilloas*, *C. lactiflua* being the most productive. Some of these Castilloas flourish on the Pacific coast, some in the semi-arid regions, and others on the humid Atlantic coast lands. The rubber area includes the States of Vera Cruz, Oaxaca, Chiapas, Tabasco, and Campeche, and the Territory of Tepic. In recent years there have been very large plantations of Castilloas set out in the Soconusco and Palenque districts in the state of Chiapas. The "guayule" rubber country lies in the northern part of Mexico in what is known as the Chihuahua desert on the great central plateau. It covers an area of about 125,000 square miles, though actually occupying only

about one-tenth of the acreage. In general its habitat may be delimited as the Texas boundary on the north, the northern boundary of the Mexican state of Durango on the south, the meridian of Santa Barbara, Chihuahua, on the west, and the meridian of San Luis Potosi on the east. The plant grows most freely along the lower portions of the slopes and on low ridges, but not on the alluvial bottom lands. As to elevation, it is found on levels from 2,000 feet to 10,000 feet above the sea, but is most plentiful at 6,000 to 6,500 feet; and where the rainfall is from 7 to 10 inches annually. The average stand is about one plant to each square yard. The full-grown plant is 30 to 36 inches high, and 40 inches in diameter, and weighs from 8 to 10 pounds. The yield of rubber is from 7 to 8 per cent of the weight of the plant. It is estimated that the guayule growth amounts to 500,000 tons, with the total possible yield of 35,000 to 40,000 tons of rubber. The annual output is about 5,000 tons. Formerly, and in some sections to-day, the guayule plants were torn up bodily with the roots. This had the effect of extirpating the plant in those localities. The conservative practice is to cut the plant above the root-stock which sends up new branches, and is ready to be cut again in three or four years. The guayule rubber is of superior quality when a part of its large content (30 per cent) of resin is removed.

The rubber industry of Latin America has had to meet the momentous industrial fact of the rapid increase in recent years of cultivated rubber raised on plantations where labor is plentiful and cheap. This supply has doubled the market offerings in the last eight years, during which the cost of collecting wild rubber has been continually increasing. To meet the new conditions which still larger yields of plantation rubber will bring into the market situation a reorganization of the labor system and a great improvement in transportation facilities seem imperative, if the wild-rubber industry is to continue prosperous.

# The Fruit Trade of Latin America

By Marrion Wilcox

THE most impressive fact in the recent history of the cultivation of valuable fruits in the Latin American tropics is not that so much has been accomplished but that so much still remains to be achieved. The past success in this attractive field, however, amply justifies a confident outlook for the future in this great industry.

The true proportions of the opportunity presented are brought out more clearly when we reverse the ordinary arrangement of statistics, and begin with the smaller items. Thus, a study of imports into the United States during the fiscal year ending 30 June 1916 shows:

Value of oranges imported from Costa Rica $4,343; from Honduras $1,495; from Panama $914; from Jamaica $43,843; from Cuba $9,826.

Value of lemons imported from Mexico $239; from Cuba $1,800; from Brazil $33.

Value of pineapples imported from Cuba $960,832; and of preserved pineapples from Cuba $35,867; from Haiti $300; from Guatemala $1,901.

Value of all other fruits (with the exception of bananas) imported from tropical or sub-tropical America: Costa Rica $810, dutiable; Guatemala $240, free; Honduras $5,142, free, and $48, dutiable; Mexico $3,113, free, and $16,532 dutiable; Jamaica $1,301, free, and $29,272, dutiable; Cuba $63,614, free, and $404,701, dutiable; Dominican Republic $127, free; Haiti, $644, free, and $280, dutiable; Brazil $272, dutiable; Colombia, $4,122 free; Venezuela $75, free.

But the quantities and values of the bananas imported during the same period of 12 months into the United States from the new world's tropics were given as follows by the Department of Commerce of the government of the United States: From Costa Rica 4,058,000 bunches, valued at $2,268,844; from Guatemala 3,811,750 bunches, valued at $958,189; from Honduras 9,702,791 bunches, valued at $1,964,822; from Nicaragua 1,548,500 bunches, valued at $250,883; from Panama 4,516,307 bunches, valued at $2,113,855; from Mexico 1,527,025 bunches, valued at $424,631; from Jamaica 4,926,944 bunches, valued at $1,445,392; from Cuba

2,859,021 bunches, valued at $1,072,035; from the Dominican Republic 289,091 bunches, valued at $140,264; from Colombia, 2,710,047 bunches, valued at $1,264,992. And in the short month of February, 1917, imports of bananas into the United States were: 1,527,620 bunches, valued at $519,489, from the Central American states and British Honduras; 48,017 bunches, valued at $18,026 from Cuba; and from South America 226,000 bunches, valued at $113,000.

Now, in Porto Rico (which we include in the present survey, although that island can no longer be called strictly "Latin American") the successful cultivation of grapefruit, oranges, and pineapples attracts attention. For example, in the year 1916 shipments from Porto Rico to the United States included 296,613



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Packing Grapefruit in Porto Rico

boxes of grapefruit, valued at $836,932, and 404,367 boxes of oranges, valued at $790,667; pineapples valued at $1,176,319 and canned pineapples $122,858, etc. Porto Rico's experience demonstrates the possibility of expanding the fruit industry by diversifying the products; there is no practical limit to the varieties of valuable fruits that the Latin American tropics can produce; and, as a thoughtful writer has recently observed: "In the Caribbean fruit trade the United States' market is, with a trifling exception, the only profitable one." (Consult Jones, C. L., *Caribbean Interests of the United States*, New York 1916.)

The records of achievement to which we have referred in the first paragraph as "justifying a confident outlook" relate

principally to a single species, the *Musa sapientium* or banana, the fruit of which was not produced on a large scale in the Latin American tropics until citizens of the United States had established the banana trade, in 1866,—at first importing from Colón only—and then had developed the industry during years and decades of unremitting effort. Many groups of citizens of the same country have been actively engaged in this work of development and share the credit accorded to all for the successful application of northern initiative, enterprise, and capital to the problems of tropical agriculture. It is especially important to remember and register the circumstance that such efforts have been in a wide sense constructive or well nigh creative; that northern commercial methods have supplied new transportation



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Golden Mangoes in Nicaragua

and communication facilities, and (taking in their stride obstacles that for centuries had been regarded as insurmountable) have expelled tropical fevers from their strongholds. As Mr. F. U. Adams writes in his *Conquest of the Tropics* (New York 1914): "In 1871 there was not a mile of railroad in all of Central America [the Republics of Guatemala, Salvador, Honduras, Nicaragua, and Costa Rica] with the exception of a short line having its terminal at Puerto Cortez, Honduras. There were no dependable foot or wagon roads from its capitals. . . . There was no steamship service from the United States or from any part of the world. . . . There probably was no inhabited spot

on earth more isolated. These republics were cut off not only by the sea but also by barriers of pestilential lands, which the natives dreaded to cross and which the outside world could not enter. To-day these former wildernesses constitute one of the most productive agricultural sections of the globe. To-day the ships from all the world enter the beautiful harbors of Central America and land their passengers in ports which are as sanitary as those of Massachusetts. To-day most republics of Central America are served with well-managed and modernly equipped railway lines. . . . Who performed these miracles?" His answer is that they were wrought by citizens of the United States "who had the imagination, the courage, and the ability to attack and conquer" the problems of tropical wildernesses; and he adds that when actual results had demonstrated to the world that the industrial and commercial conquest of the tropics was possible, this should have proved to the United States that it was the bounden duty of its people, its press, and its government to encourage and foster the speedy development of those regions, not for the mere purpose of obtaining money rewards, but with the larger, broader, and truly statesmanlike object of "obtaining from the tropics such of its other products as would add to the happiness and raise the standard of living of the people of the United States." And in other passages of the same book the benefits accruing to the citizens of the Latin American republics are discussed with equal interest. Under the command of a single northern company 60,000 trained men are working in the Latin American tropics at the present time. Tens of millions of dollars have been advanced to those who otherwise would not have been able to use their lands for banana cultivation — such loans having been made, at reasonable or relatively low rates of interest — much lower than the prevailing rates for similar advances in the same localities — to residents in or citizens of Costa Rica, Panama, Colombia, Guatemala, and other Caribbean regions that have become important sources of fruit supply. The problems of tropical sanitation have been attacked and mastered — not less vigorously attacked and not less thoroughly mastered on the extensive banana plantations than in the Canal Zone, Panama, or in Havana and Santiago de Cuba.

The last-mentioned achievement — the mastery of problems of tropical sanitation for the safeguarding of the health of all who labor on the fruit plantations — deserves our special consideration at this moment. The head of the Tulane School of

Tropical Medicine of New Orleans observes: "The vast improvements there [in the Latin American tropics] do the genius of American medical men a credit that only future ages will appreciate. Every one knows what great sanitary work the American Government has accomplished in the Canal Zone, but few realize that a similar improvement has been worked in the rich fruit centres." The facts adduced in support or confirmation of this statement are substantially the following: In 1900, about three years before the United States took over the Panama Canal and began the work of sanitation in the Canal Zone, more than 15,000 men were at work for a fruit company on Caribbean tracts of coastal lands which had been regarded always with fear and aversion, as though they had been necessarily and permanently disease-breeding areas. But the rate of mortality among laborers and officials was not high, for the simple reason that the basic principles of that system which afterward made possible the completion of the Panama Canal (q. v.) without terrible sacrifices of human life had already been studied, tested, accepted, and the appropriate remedies had been already applied. "In the selection of sites for new towns and settlements careful attention was given to the requirements of drainage. All adjacent swamps were cleared, and the grass and underbrush kept cut about the houses. The laborers were verbally instructed how to take precautions against the known dangers of these districts, and the medical employees of the company made regular inspections of their places of living," to enforce compliance with such instructions. "Hospitals were erected and prompt measures taken to isolate any victim of contagious disease." With the co-operation of the various governments, strict quarantine was enforced against certain foreign ports whenever such action became advisable. The medical officers of the banana companies very promptly turned to good account the discovery (confirmed practically in 1898) of the causes of yellow fever and malarial fevers, and employed the most effective methods for the extermination of the disease-bearing insects; indeed, there seems to be no good reason for withholding endorsement of the assertion that sanitary work and experiments conducted by the pioneer banana companies in Costa Rica and elsewhere in the years between 1873 and 1899 were of value to those medical scientists who finally were "able to announce to the world that the mysteries of yellow fever and malaria had been solved." After 1899 all houses occupied by employees not immune to such fevers were screened

— sometimes doubly screened — to exclude pernicious mosquitoes. Petroleum was used freely in stagnant pools and slow-running streams. All expedients for eliminating the tropical menaces to health were tested and, if approved, installed on a liberal scale. For example, we may mention the adoption of the following sanitary measures at Puerto Barrios, Guatemala: All low-lying places near that town were filled in or flushed with salt water and danger-spots above high tide were drained. The camps out on the neighboring plantations were located on high, well-drained ground, and all grass and other vegetation kept low for 150 yards around these camps; tanks holding the water supply were thoroughly screened; all surface water was oiled at stated periods. The results are satisfactory; for no case of any quarantinable disease has appeared during several recent years at this port or at others to which similar preventive measures and methods have been applied.

The banana lands owned by a single northern company are 150,000 acres in extent, and those owned by its competitors and by independent growers who sell to the various importing houses, about 370,000 acres. Even now, the total area devoted to this agricultural industry approximates 520,000 acres. We have mentioned already the development of railroad transportation facilities in the Central American republics that stood most in need of them. Not less noteworthy is another outgrowth of this international dealing in the fruits of the Latin American tropics — the establishment of new steamship transportation facilities. One of the fruit companies operates 90 vessels (248,607 tons in all), with accommodations for 3,000 passengers and carrying about 360,000 tons annually of general freight for the public — thus opening not only new markets to manufacturers in the United States but also opening the markets and the opportunities of the great world to the people of Central America who had been shut off from both during long and sometimes depressing, though never, to the people there who inherit traits of the Indomitable Iberian, wholly discouraging ages.— Professor C. L. Jones, of the University of Wisconsin, writes: "One company chiefly engaged in the exploitation of the banana trade claims, with its allied interests, to have expended $200,000,000 in the [Latin] American tropics. It reports its resources devoted to Caribbean development as $88,867,408.27." Again, on pages 296-7 of *Caribbean Interests of the United States*, he says that the fruit trade has undergone a development similar to that of the asphalt industry

Production to some extent may be left in the hands of small planters and a minor part of the total amount marketed is still thus grown; but the work even in this stage of the industry is more efficiently performed by aggregations of capital which can assure a steady supply and transportation facilities that can be depended upon. The small planter must ordinarily market his fruit by sending it to tidewater or to the railroad on muleback. The large company can build branch railroads at a fractional part of the cost of animal transportation; and in this manner it can exploit regions which otherwise lie too far distant to permit their profitable cultivation. If a steamship cannot berth at his dock, the small producer is at a disadvantage because he can neither buy a lighter nor build the necessary landing pier. Moreover, in many of the Caribbean banana regions the public authorities neglect to supply him with these facilities. Shipments of fruits to foreign countries, he adds, cannot take place in the ordinary cargo vessels. Specially constructed steamships with refrigerating appliances are required, to keep the fruits from ripening too rapidly. "As a result of these conditions the export of fruit in the Caribbean has come to be almost entirely controlled by a few large concerns, the pioneer companies." Particularly interesting are the same writer's comments on Cuba and Honduras. In his opinion the fruit trade of Cuba, still in its infancy, shows promise of healthy development. Bananas for home consumption are grown over the entire island, but are exported only from the north coast at the extreme eastern end where soil and climate are especially favorable. The Cuban citrus fruit (especially grape fruit) industry is increasing in importance. His studies of Central American countries lead him to say that the prosperity of the foreign trade of Honduras "depends, even more than in Costa Rica, upon the banana industry. . . . In the production of fruit the country has great possibilities. As yet, this development is confined chiefly to the north-east coast, near the ports of Tela, Ceiba and Trujillo." The heterogenous population of the Trujillo region is almost entirely dependent upon the banana trade, which in Honduras has apparently unlimited possibilities of development.

# Wool in Latin America

By W. B. Graham
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THE wool industry is subject to climatic influences, it being found that, while sheep thrive in the tropic and semi-tropic zones, nature, by its law of compensation, relieves them of the necessity of clothing themselves to withstand the cold, and their wool loses those qualities that the requirements of commerce have standardized. Applying this to Latin America, we find that the most successful exploitation of the wool industry is in the extreme southern countries of South America, or on the high table lands free from tropic influence.

## Argentina

Next to Australia, and on a par with the United States, Argentina occupies a pre-eminent position in the wool industry. Unlike the cattle and meat industry, wool growing has been of long standing. In 1885 the exports of this commodity amounted to $35,950,111; 1890, $35,521,681; 1900, $31,029,522; 1905, $27,991,561; 1910, $58,847,699. The best year during this period was 1899, during which the total amounted to $71,283,619. Throughout the entire statistics of the country, a fact generally true elsewhere, a close relation is noted between the production of wool and the price of mutton. When the latter is in demand at a good price, entire flocks of sheep are slaughtered, with a resulting diminution of the wool clip for the following few years.

On 1 Jan. 1915, the estimated number of sheep in the republic was 80,000,000, and the estimated clip amounts to upwards of 300,000,000 pounds per annum (Commerce Reports, 1 Dec. 1916). Sheep are pastured throughout the republic, particularly in the central and southern part. Requiring cheap lands, they have been pushed further south each year, with the result that parts of Patagonia and of Tierra del Fuego, considered a generation ago as uninhabitable for civilized man, have been found to be peculiarly adapted to the industry. The rapid development of this territory to its new capabilities, in connection with a similar development in the corresponding latitude of Chile, has made a distinct sheep

raising section of the southernmost part of the Continent, tributary to a great extent to Punta Arenas, Chile, which until recently was a free port.

Vice-Consul J. W. White, at Buenos Aires, on 17 Oct. 1916 (Commerce Reports above cited), made an extended report on the wool industry to Washington, calling attention to the conditions permitting Argentina to demand unheard-of prices for her wool. The action of the British Government in placing an embargo on the sale of the last year's clip of the United Kingdom had operated to the direct advantage of the republic, enabling her to supply the wants of neutral countries in addition to filling orders from the Entente Allies for such varieties as the British colonies do not produce.

Seventy-five per cent of the wool comes from the white-faced, long-wool sheep of the Lincoln and Leicester breeds, the quantity and the quality being such that in the markets of the world it is known as Argentine crossbreed. It grades, when sorted, into coarse and medium crossbred, correspond to the domestic commons and domestic one-fourth bloods in the United States. The fine Argentine crossbred is the equivalent of the United States three-eighths blood. Of the yearly total, merino fleeces constitute 20 per cent, the equivalent of the domestic fine in the United States, and the remaining 5 per cent is from the black-faced and domestic sheep. The average clip per animal is 5.3 pounds.

Prior to the European War, the principal buyers of Argentine wool were France and Germany. Exports to France in 1911 amounted to 51,501 tons; 1912, 51,138 tons; 1913, 31,342 tons; and 1914, 23,794 tons, a total for the four years of 157,775 tons. During the same period, Germany bought in 1911, 31,693 tons; 1912, 47,839 tons; 1913, 41,362 tons; and 1914, 30,386 tons, total, 151,280 tons. During the same years the purchases of the United Kingdom amounted to 93,225 tons; Belgium, 55,731 tons; United States, 52,521 tons; Italy, 14,849 tons; and other countries, 18,989 tons. From these figures the total exports of wool for these four years totalled 534,370 tons, being divided as follows: 1911, 132,056 tons; 1912, 164,964 tons; 1913, 120,080 tons; and 1914, 117,270 tons. Recent economic changes have made the United States the principal purchaser of Argentine wool. Of the total export, 298,939 bales (925.9 pounds each) for the fiscal year ending 30 Sept. 1916, 152,330 bales went to the United States, as compared with the 102,329 bales purchased of the export of 303,402 bales in 1915, and 14,000 bales out of 304,268 bales in 1914. The strong demand from the United States has contributed largely to the increase of prices.

the average sales in 1912 being, per pound, $0.165; 1913, $0.175; 1914, $0.175; and 1915, $0.201. During the August-September market season of 1916, the foreign demand plus speculation forced the price from $0.327 to $0.404 per pound, quotations that covered all classes, including lambs' wool, shorts, belly wool, and sweepings, the spirit of speculation being so strongly instilled into the market that to-day no settled price is recognized.

### Chile

In Chile the raising of sheep for their wool to be used in the domestic textile industry has been carried on since the first settlement of the country. It is within the present generation that the industry has assumed export proportions, a result of the development of the southern portion of the republic, including the extensive Territory of Magellanes. The number of sheep in the country, according to the estimate of the government (Commerce Reports, 16 March 1916), is 5,000,000, of which 2,000,000 are in the territory tributary to Punta Arenas.

Formerly the centre of the government penal colony, founded in 1840, Punta Arenas, on the Strait of Magellan, in time became an important coaling station for steamers. Later, Scotch shepherds from the Falkland Islands, noting the excellence of the pastures in the vicinity, brought their flocks and started the industry that promises to become one of the most important in the country. The result has been that the Chilean Government has recognized the possibilities of this part of the republic, and has thrown open the Territories of Llanquihue, Chiloe and Magellanes to settlement, and thousands of acres of land have been occupied, the greater part devoted to sheep farming. There are many settlers from the British Isles, and English is everywhere spoken. Punta Arenas, population 17,000, was a free port until 1912, one cause of its rapid growth and importance. The territory, all devoted to the same industry, of which it is the chief city, includes not only Chilean pastures, but those of southern Argentina. The estimated clip for 1916 (Commerce Reports, 21 Oct. 1916), was 25,000,000 pounds. Argentine wool also to the amount of 1,347 metric tons (2,204.6 pounds) passed through this port in 1914.

In 1913 and 1914 Chile exported the following amounts (metric tons): To Great Britain, 9,400 and 8,115; France, 1,938 and 1,264; Belgium, 583 and 39; Germany, 742 and 2,185; and the United States, 7 and 358. Due to the demand caused by the war, exports have greatly increased to the United States, those for

1915 (fiscal year ending 30 June) amounting to 2,369,359 pounds, valued at $599,650, and 1916, 9,611,489 pounds, valued at $2,562,792.

Chilean wool is divided into two general classes — merino, which is fine, soft, curly, and comparatively short, and English, which is long, straight, and glossy. Between these two grades there are various "crossbreeds," the quantity of these increasing each year. Since the beginning of the war, the price of merino wool has fallen, while the crossbreed has risen appreciably. Export wool is unwashed (Commerce Reports, 16 March 1916), weighing twice as much as that prepared for spinning. The lack of facilities for washing has had the effect of causing difficulty in the dying of wools for native industry. Of this latter there are two factories in the country, at Santiago and at Tome, the annual consumption being about 550 metric tons of wool, and their output 435,000 yards of fabric, which is used in part for army, navy, and police uniforms. In addition, the manufacture includes cashmeres, broadcloths, blankets and shawls.

### Uruguay

Uruguay, as regards the production of wool, is subject to the general conditions that affect Argentina. The country is essentially pastoral, and the greatest interest has been taken by the government in the introduction and propagation of fine stock. The exports of wool in 1913 amounted to 63,571 metric tons. Since the war, the greatest trade in this commodity has been with the United States, the exports in 1914 (fiscal year ending 30 June) amounting to 7,965,817 pounds, valued at $1,854,065; 1915, 14,612,703 pounds, valued at $3,956,216; and 1916, 8,941,506 pounds, valued at $3,206,191.

### Brazil

Brazil, due to the tropical nature of the greater part of its surface, is not destined to become one of the great wool producing countries. However, in the southern part of the republic — notably in the state of Rio Grande do Sul — the climate is adapted for sheep raising, and a considerable quantity of wool is produced. The principal market of the country for wool is at the port of Rio Grande. Success is also reported in sheep raising for wool in the states of Paraná and Minas Geraes. Exports for the country in 1911 amounted to 2,147,970 pounds, valued at $311,386; 1912, 4,198,630 pounds, valued at $571,276; 1913, 2,838,804 pounds, valued at $394,155; 1914, 2,448,193 pounds, valued at $251,544; and

1915, 997,639 pounds, valued at $193,065. Exports to the United States during the fiscal year ending 30 June 1915, amounted to 115,147 pounds, valued at $29,389; and 1916, 87,864 pounds, valued at $15,590. Native industry consumes a large amount, the quantity increasing rapidly.

### Other Countries of Latin America

Of the other Latin American countries, there are none that do not produce some wool, many in large quantities, and some a product of a special quality, this latter being particularly true of Peru, Bolivia, and Chile, where, in the Andes region, the alpaca, vicuña, and llama thrive. In the Supplement to Commerce Reports of 18 April 1917, the United States Minister at La Paz says: "Throughout the arid region that lies between the two Cordilleras a species of bunch grass grows which is capable of resisting the rigors of winter and which provides abundant pasture for sheep and other wool-bearing animals. Experiments conducted under government supervision seem to indicate that the alpaca is better suited to live in the highlands than is the sheep or any other wool-bearing animal. The government of Bolivia is making a special effort to stimulate the industry, and the production of alpaca wool is attaining considerable importance in the country." (Samples of alpaca and llama wool, raw and woven into native fabrics, are on exhibition at the Bolivian Consulate General at New York.)

Four animals closely related to the camel of Africa and Asia inhabit the Andean highlands. Of these the vicuña and guanaco are wild and hold no important position as a source of wealth. The skin of these animals is covered with a coat of soft hair and has value as a fur. Efforts to prevent their extermination, however, are of little effect in a country so sparsely settled and so difficult to police, and the fear is that they may eventually disappear altogether. The alpaca and the llama are domesticated . . . The alpaca, although closely related to the llama, with which it interbreeds freely, differs . . . in the character of its wool. The wool of the alpaca is generally black or white; occasionally, however, brown or spotted ones are found. It is customary to shear the alpaca every second year, but it has been found that the wool continues to grow for a longer period and that it would be profitable to shear them only every third year. The present yield averages about 10 to 15 pounds every second year . . . Among the wools alpaca is superior because of its remarkable strength, its flexibility, and the fineness of its texture . . . The production is limited entirely to the Andean highlands of Peru and Bolivia.

Peru, in addition to her production of alpaca and llama wool, has large domestic sheep interests. The exports of alpaca wool in 1913 amounted to $1,573,670; 1914, $1,538,427; and 1916, $1,696,213. Of llama wool, the exports in 1913 amounted to $141,493; 1914, $90,477; and 1915, $144,152. Domestic wool, 1913, $797,868; 1914, $841,165; and 1915, $1,066,844. Exports to the United States in 1915 (fiscal year ending 30 June) amounted to 819,347 pounds, valued at $192,284; and 1916, 2,426,279 pounds, valued at $669,174.

Colombia, although using a considerable quantity of wool in domestic manufacture, also produces some for export. The quantity sent to the United States in 1915 amounted to 915 pounds, valued at $218. No shipments were made in 1916. Paraguay also produces wool for export, the quantity sold abroad in 1914 being 93,634 pounds; and 1915, 129,127 pounds. Of this latter, 24,651 pounds were shipped to the United States, the remainder to Argentina, Uruguay, Italy and France. As to Venezuela, no figures regarding wool production are available. Of the northern group of Latin American States, Mexico is the greatest grower of wool. In normal times it is an important industry. Even during the recent troubled period, her exports to the United States amounted in 1914 (fiscal year ending 30 June) to 849,991 pounds, valued at $108,004; 1915, 1,154,626 pounds, valued at $134,863; and 1916, 1,321,213 pounds, valued at $170,518. Of the remainder of the group, the only states exporting to the United States during 1916 (fiscal year ending 30 June) were Costa Rica, 19,574 pounds, valued at $8,935; Guatemala, 572 pounds, valued at $257; and Panama, 200 pounds, valued at $50.

# Rice Production in Latin America

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THE use of rice as an article of food is more uniformly widespread in Latin America than in the United States. It is the mainstay of the laboring classes, and, by itself or incorporated with other foods, it is found, as well, on the tables of the wealthy. From the universal demand for this cereal, it is found to a greater or less extent in all of the Latin American states, with the greatest acreage in Brazil, where its cultivation is mentioned as early as the middle of the 15th century. From the days of its earliest production it has been a subject of government control and encouragement. At the present time it is being fostered by the Ministry of Industry and Agriculture, whose efforts are directed to an increased production to reduce the cost of living — a real service in view of the fact that the greater part of wheat and other breadstuffs is imported. Under the auspices of this Ministry there was published in 1914 a comprehensive work on the subject by Dr. L. Granato, entitled *O Arroz*, and recently, in connection with the conclusion of arrangements for a direct shipping line between Brazil and Japan, plans have been perfected for the introduction of several thousand laborers "to be employed in accordance with the regulations of the national authorities in the cultivation of rice, etc." With experienced labor, and the natural facilities offered by the Brazilian climate, lands, and natural streams adaptable for irrigation uses, the future of the country as a rice producer is promising.

## Brazil

The chief rice-raising state of Brazil is São Paulo, with an acreage (1913) of 231,000 acres. In 1911 its crop amounted to 134,367,856 pounds, 1912, 222,992,643 pounds, 1913, 178,013,824 pounds, and 1915, 192,000,000 pounds. Of the other states, Minas Geraes, producing about half as much as São Paulo, Rio de Janeiro, Rio Grande do Sul, Ceará, Parahyba, Santa Catharina, Maranhão, Pará, and Espirito Santo follow in the order named. The total production of the whole of Brazil was estimated in 1911

at 15,823,372 bushels, a figure that is exceeded at the present time. Due to the domestic demand, only a negligible quantity of rice is exported, but a large amount is imported each year, the quantity for 1913 being 17,110,195 pounds, and for 1914, 14,377,073 pounds, of which about 70 per cent was purchased in India, the remainder coming principally from Germany, the United Kingdom, and The Netherlands. Of purchases from the United States the quantity in 1911 was 5,050 pounds, valued at $280; 1912, 191 pounds, valued at $8; 1913, 13,530 pounds, valued at $636; 1914, 190 pounds, valued at $9; 1915, 274,104 pounds, valued at $11,789; and 1916, 700,574 pounds, valued at $26,904. Due to the high customs duties and surtax, amounting to about $0.3½ per pound, the cost of the low and medium grades of foreign rice when offered on the domestic market is too high to be able to compete with the local cereal of the same quality, and the greater part of all the imports consists of the fancy high priced grain, the favorite grades being those known as the Patna and Siam.

## Argentina

In accordance with the policy of the Government in its scheme for the encouragement of national industry, to make the country self supporting, the Ministry of Agriculture of Argentina has lent its assistance to the rice growing industry, which has long passed its experimental stage. Due to climatic fitness, the northern part of the Republic has seen the greatest development. In a special report by the United States Consul at Rosario (15 June 1915) to Washington, it was stated that approximately 12,000 acres were under rice cultivation at that time, a decrease from the 19,664 acres shown by the government statistics of 1908. Of this latter the number of acres devoted to rice in the various provinces and territories was divided as follows: Santa Fé, 5,421; Tucumán, 1,823; Buenos Aires, 2,469; Córdoba, 1,997; Entre Rios, 1,838; Misiones, 1,530; Salta, 598; Jujuy, 526; Pampa, 334; San Juan, 54; Corrientes, 54; La Rioja, 10, and Santiago del Estero, 10. In a supplemental report (2 June 1916), certain changes are indicated in the localities of production, Tucumán, Salta, and Jujuy being mentioned as the principal producers, with cultivation on a smaller scale in San Juan, Mendoza, La Rioja, Catamarca, Corrientes, the Chaco, and Misiones.

Experiments have been made with the principal varieties of Chinese, Japanese, Italian, and Spanish rice, and those known as Salonne, kinskú, and Valencian are mentioned as being best

adapted for the localities under experiment. Efforts are still under way to place the industry upon a stable basis, in furtherance of which experts from Japan have recently been called to study and report upon rice growing possibilities. As far as investigation has been made, the climate, soil, and irrigation of the northwestern provinces of Salta, Jujuy, and Santiago del Estero have been reported suitable for rice culture on a large scale, with particular recommendation for the Departments of Campo Santo and Santa Ana in Salta and La Banda in Santiago del Estero. Later reports will be made regarding possibilities in Catamarca and La Rioja, where conditions are already known to be favorable.

In default of exact figures of recent acreage and production, it may safely be said that the national production of rice has doubled, at least, since the breaking out of the European war, due to the general increase in the prices of cereals of all kinds resulting from the general world demand, and, particularly as concerns Argentina, the excessive oversea freight rates on imports. In the three provinces, alone, of Tucumán, Salta, and Jujuy, the acreage devoted to rice growing in 1916 was five times that of 1915, and with the exception of certain localities — notably Corrientes — where drought was experienced, the yield per acre was the maximum. As indicating the increase, the province of Tucumán may be taken as an example, the yield being, in 1913, 4,190,000 pounds; 1914, 7,120,000; 1915, 15,430,000 pounds; and in 1916, between 15,000,000 and 16,000,000 pounds (estimated).

On the occasion of a competitive exhibition of native rice (1917) held at Buenos Aires, under the auspices of the Argentine Rural Society, it was pointed out that with an acreage of from 60,000 to 75,000 acres devoted to this cereal, the country would no longer be dependent on imports. The amount bought abroad amounted, in 1913, to 97,721,190 pounds; 1914, 123,417,935 pounds, of which the greater part came from Italy and the British possessions. The United States (supplying none in 1911 and 1912) sold Argentina, in 1913, (fiscal year ending 30 June), 7,619,152 pounds; 1914, 3,000 pounds; 1915, 3,923,611 pounds; and 1916, 3,442,042 pounds, a small percentage of the total imports — small, according to the opinion of the United States Consul at Rosario, from the fact of its high price in comparison with other markets, although the quality is considered good.

In accordance with the policy of encouragement given to the industry, the National and Provincial governments have perfected agreements, the former through the Banco de la Nación, providing for the milling and grading of rice at actual cost to the grower. In

addition, plans have been made for giving expert instruction as to its culture; for furnishing suitable seed and other inducements; and seasonable markets.

### Peru

Peru is one of the Latin American countries whose production of rice corresponds closely to domestic requirements. In a recent mention of the industry (*Bulletin of the Pan American Union*, February 1917), rice culture is stated as having been a national industry for several centuries, the importance of which has only recently come to be realized. In the same article the annual production is estimated for the past several years as being from 70,000,000 to 100,000,000 pounds. While obsolete methods of growing and handling the cereal are still in vogue in parts of the country, there has been a noticeable advance generally in the utilization of modern appliances, due to the encouragement of the government through the Ministry of Public Industry. Rice mills are being installed, for which there is a growing demand for equipment from the United States (Commerce Reports, 3 Feb. 1916).

The quality of the Peruvian rice is stated by the United States consul at Lima (Report of 10 June 1916) as being superior, and better than that imported from China, a fact that accounts for both imports and exports appearing in the annual trade reports of the country, as the former are intended to supply the cheaper grades of consumption, releasing for foreign demand the higher priced domestic product. Recently, however, in order to conserve domestic foodstuffs, an embargo has been placed on its exportation, a measure that has been the subject of criticism. The exports of rice amounted in 1912 to $289,411; 1913, $380,690; 1914, $305,484; and 1915, $788,061. During the same period the imports were, 1912, $598,399; 1913, $546,313; 1914, $404,592; and 1915, $303,700. Of the imports since 1911, those from the United States were as follows: 1911 (fiscal year ending 30 June), none; 1912, 30,000 pounds, valued at $1,200; 1913 and 1914, none; 1915, 561,662 pounds, valued at $24,255; and 1916, 57,890 pounds, valued at $2,410.

### Costa Rica

The annual per capita consumption of rice in Costa Rica is at least 100 pounds, it being eaten at least twice a day by every inhabitant of the Republic. The total consumption exceeds 30,000,000 pounds per year, from 4,000,000 to 6,000,000 pounds being imported annually, notwithstanding the heavy domestic production, largely in the mountain and hill slopes of the interior of the country. Of

late there has been a movement towards the utilization of the swamp lands in the neighborhood of Port Limón, it being practicable to flood these during certain months of the year. The imports of rice — formerly 60 per cent from Germany, 22 per cent from the United States, 10 per cent from England, and the remainder from China and other countries — have lately been as follows: 1913, $143,391; 1914, $160,311; and 1915, $108,649. The amount imported from the United States since 1911 is as follows: Fiscal year ending 30 June, 1911, 11,000 pounds, valued at $263; 1912, 1,034 pounds, valued at $38; 1913, 4,558 pounds, valued at $152; 1914, 10,236 pounds, valued at $421; 1915, 876,014 pounds, valued at $34,944; and 1916, 541,547 pounds, valued at $21,031.

On 28 April 1917, the United States Consul at San José reported that the available supply of rice in the country amounted to 1,721,800 pounds, and that the present year's crop, according to government estimates, would be 5,131,600 pounds.

### Paraguay

As regards natural facilities — climate and irrigation — for the production of rice, the conditions in Paraguay are ideal. The production, however, has never been equal to the demand, and it is only recently that the government, through the Banco Agrícola, has taken the matter seriously in hand. The area devoted to rice growing in 1915, amounting to 2,480 acres, was more than double that of 1914, and in 1916 the acreage was still greater. The production for 1915 was estimated at 40,000 bushels. The numerous river bottom lands, convenient to the larger population centres, are being investigated, and plans are being formulated for the study of the problem of efficient rice culture by Japanese experts. The price of refined rice, 26 May 1915, was $0.14½ per pound, and the domestic production, unrefined, averaged about $0.04 per pound. Early in 1916 the Banco Agrícola instructed its agents that the Committee of Agriculture and Industry, to protect the producers of agricultural products, had authorized the purchase of Paraguayan grown rice in the husk, at $0.2¼ per pound delivered to the agencies of the bank. This minimum price was intended merely to maintain values and did not prevent others from purchasing the product at the same or a higher figure. This activity is within the scheme of the same institution for several years, in purchasing rice in the open market and furnishing it to the poorer classes at cost. Due to the fact that rice appears in the government statistics under the heading of foodstuffs, the

quantity imported cannot be estimated. Before the war the greater part came from Germany. Much is purchased through Buenos Aires commission houses. Imports from the United States began with 1915, 37,212 pounds, valued at $2,323; 1916, 44,440 pounds, valued at $2,250.

### Ecuador

Rice is the principal article of diet of all Ecuadorians, and is raised locally to a considerable extent. The production varies from 7,500 to 10,000 tons annually, being subject at long intervals to serious droughts. In 1916, due to prolonged lack of rainfall, the crop was reported by the United States Consul (23 March 1916) as almost a total failure. The average imports of rice, 1909 to 1913, amounted annually to 4,600 tons, the valuation being, 1909 and 1910, per ton, $44; 1911, $49; 1912, $47; and 1913, $52. In 1916, the price had advanced to between $70 and $75 per ton. The most popular rice consumed is that imported from Peru, the next being the domestic grain, while that from India ranks third. The production is largely in the hands of small farmers, and the crop is usually sold or bartered in its raw state to the local merchants, who send it to mill, receiving back 100 pounds of the hulled product for every 160 pounds of the unhulled. There are 19 rice hulling machines in the country. Imports from the United States amounted, in 1911 (fiscal year ending 30 June), to 5,625 pounds, valued at $132; 1912 and 1913, none; 1914, 6,771 pounds, valued at $283; 1915, 127,092 pounds, valued at $5,106; and 1916, 50,000 pounds, valued at $1,955.

### Remaining States of Latin America

Special industries and special products of many of the remaining Latin American States are such that the local production of rice is of comparatively small importance, and, while carried on to a greater or less extent, it is included in the statistics of "agricultural products." As an industry, for example, in Bolivia, the United States Consul (Supplement to Commerce Reports, 18 April 1917) states that it has "remained undeveloped because of the lack of adequate means of transportation." The imports of rice for the year 1915 amounted to $209,963, of which the United States contributed $13,530.

Chile raises very little rice, although a great deal is consumed in the country. The United States Consul at Valparaiso (Com-

merce Reports, 4 Aug. 1915) states that the annual imports, taken on the basis of the statistics and tables of 1913, total 40,350,340 pounds, valued at $935,281, the United States supplying 99,427 pounds, valued at $2,305; United Kingdom, 484,240 pounds, valued at $11,224; Germany, 15,684,406 pounds, valued at $363,546; Italy, 9,217,532 pounds, valued at $213,649; India, 8,356,536 pounds, valued at $193,695; Java, 80,688 pounds, valued at $1,870; Peru, 5,247,499 pounds, valued at $121,631; all other, 1,180,012 pounds, valued at $27,361. In 1914, the imports amounted to $668,357, and in 1915, $1,106,187. No imports were made from the United States in 1911, 1912, or 1913. In the fiscal year ending 30 June 1914, however, 19,315 pounds, valued at $270, were purchased from the United States; 1915, 1,829,700 pounds, valued at $74,346; and 1916, 7,295,271 pounds, valued at $312,387—a remarkable gain, bespeaking the Chilean appreciation of the United States product.

Colombia consumes vast quantities of rice. As to its domestic production, the United States Consul at Barranquilla (Supplement to Commerce Reports, 30 June 1915) says: "Rice, an important article of consumption, is cultivated by small farmers in a primitive way, the chief implements being a few hides, wooden poles, and a winnowing fan of palm leaves." In view of the favorable climate, the unlimited facilities for irrigation, and, above all, the expressed intention of the Government to foster agrarian pursuits, along with the present, increasing price of foodstuffs, the time seems opportune for making rice culture of commercial importance. Prior to the European War, the quantities imported amounted to approximately $800,000 annually, 86 per cent being furnished by Germany. At the present time Great Britain and the United States are supplying the market. During the fiscal year ending 30 June 1911, the United States supplied 33,653 pounds, valued at $914; 1912, 73,353 pounds, valued at $2,741; 1913, 45,740 pounds, valued at $2,113; 1914, 17,680 pounds, valued at $629; 1915, 2,584,076 pounds, valued at $98,013; and 1916, 8,934,829 pounds, valued at $343,105.

Uruguay is essentially a pastoral country, and, with the exception of wheat, has, until recently, given but little attention to the raising of cereals. As to her imports of rice, the figures are included among other "food products." No imports were made from the United States in 1911, 1912, 1913, or 1914. Those made in 1915 amounted to 93,175 pounds, valued at $4,635; and 1916, 48,660 pounds, valued at $2,513.

Venezuela raises a comparatively small amount of rice. According to the United States Consul at La Guaira (Supplement to Commerce Reports, 17 April 1916), "rice is grown, but in far from sufficient quantity, and it is one of the principal articles of import." Imports in 1913 amounted to $288,607, of which The Netherlands supplied $150,986; Germany, $106,088; the United States, $16,281; Great Britain, $9,635; and France, $14,104. In 1914, the imports amounted to $396,906, of which The Netherlands supplied $196,052; Germany, $86,922; the United States, $63,630; Great Britain, $5,837; others not reported. In 1915, the amount was $619,952, of which the United States supplied $424,518; Great Britain, $91,415; Trinidad, $23,866; Spain, $24,029; and France, $656 (Supplement to Commerce Reports, 17 April, and 29 Dec. 1916). According to the reports of the United States Department of Commerce (1915, 1916), the exports from the United States to Venezuela for the year ending 30 June 1911, amounted to 48,300 pounds, valued at $1,378; 1912, 46,388 pounds, valued at $1,490; 1913, 42,650 pounds, valued at $1,589; 1914, 25,018 pounds, valued at $800; 1915, 4,253,399 pounds, valued at $175,408; and 1916, 6,559,777, valued at $262,448.

Guatemala in 1913 raised 3,501,000 pounds of rice; 1914, 22,753,200 pounds; and 1915, 24,015,000 pounds, indicating an increased interest in the development of this industry, a condition resulting from general world conditions and the appreciation of the possibilities, in an agricultural way, of the country. In 1916 the production, due to labor demands for other industries, fell to 13,554,700 pounds, estimated (Commerce Reports, 5 April 1917). Rice, being the principal article of diet, large quantities are also imported, the quantity from the United States being, in 1911 (fiscal year ending 30 June), 164,675 pounds, valued at $4,164; 1912, 130,330 pounds, valued at $3,513; 1913, 68,200 pounds, valued at $2,524; 1914, 81,295 pounds, valued at $3,422; 1915, 671,299 pounds, valued at $27,172; and 1916, 235,814 pounds, valued at $9,658.

Honduras, according to the report of the American Consul at Tegucigalpa (Supplement to Commerce Reports, 7 July 1915), is peculiarly adapted to the raising of rice, but never "on a large scale until highways are built and transportation facilities afforded the people." In a later report, his successor at the same place said (Supplement to Commerce Reports, 3 May 1916): "Honduras at present imports a vast quantity of rice; yet Honduran rice is considered the best on the market, and available rice

lands in the Puerto Cortes district cover a large area." The production in 1915 amounted to 3,252,000 pounds. The imports, 1913–14 (fiscal year ending 1 August), amounted to $82,124, of which the United States supplied $72,218, and Germany, $9,310; 1914–15, total, $112,627, of which the United States supplied $110,194, and Germany $1,421 (Supplement to Commerce Reports, 18 Dec. 1916). Evidently on a different basis of valuation, the United States Department of Commerce gives the exports of rice to Honduras as follows: 1911, 684,815 pounds, valued at $20,765; 1912, 1,101,230 pounds, valued at $33,267; 1913, 1,083,045 pounds, valued at $44,599; 1914, 1,501,472 pounds, valued at $65,101; 1915, 2,119,055 pounds, valued at $83,748; and 1916, 2,264,256 pounds, valued at $90,650.

In Nicaragua "some rice is grown, but not enough for local requirements" (Supplement to Commerce Reports, 1 Dec. 1915). The imports of this cereal amounted in 1913 to $172,645; 1914, $134,882; and 1915, $145,550. Imports from the United States have been as follows: 1911, 330,393 pounds, valued at $10,242; 1912, 583,476 pounds, valued at $17,328; 1913, 812,911 pounds, valued at $32,448; 1914, 697,612 pounds, valued at $29,719; 1915, 807,672 pounds, valued at $32,601; and 1916, 1,164,645 pounds, valued at $46,232.

Panama, although adaptable to agriculture, is in a backward state, due to lack of transportation facilities, the principal industry being that of utilizing the natural products of the country, balata, bananas, etc. While suited to rice culture, very little is raised. The imports of this cereal in 1914 amounted to $351,000. Imports of rice from the United States amounted in 1911 to 94,483 pounds, valued at $2,929; 1912, 170,323 pounds, valued at $4,864; 1913, 170,111 pounds, valued at $7,614; 1914, 281,516 pounds, valued at $11,839; 1915, 4,861,604 pounds, valued at $195,031; and 1916, 2,300,577 pounds, valued at $90,573. In a report by the United States Consul General (Commerce Reports, 14 Aug. 1915), it was stated that the preference in imports was for the grains know as Siam No. 1 and Saigon No. 1, formerly procurable from Hamburg, but purchased at present in San Francisco. Some domestic United States rice has been purchased at New Orleans.

Salvador is one of the Latin American countries raising sufficient rice for its own needs, and a surplus for export. In 1914 the area under cultivation was 27,000 acres, producing 12,344,000 pounds. During the same year, the exports amounted to $10,283, of which the United States received $4,032; Guatemala, $2,050;

Nicaragua, $3,632; Honduras, $366; Panama, $197; Costa Rica, $702; and France, $4.

Mexico produces a large quantity of rice, but, due to the large domestic consumption, quantities have to be imported every year, particularly at present on account of recent political and industrial troubles. The area under cultivation in 1914 was 41,000 acres, producing 33,921,000 pounds. Figures regarding importation as a whole, for recent years, are not available, but the imports from the United States amounted in 1911 to 542,320 pounds, valued at $20,690; 1912, 21,621 pounds, valued at $9,381; 1913, 439,937 pounds, valued at $22,711; 1914, 1,292,466 pounds, valued at $55,573; 1915, 1,742,531 pounds, valued at $76,716; and 1916, 6,099,932 pounds, valued at $229,196. In 1914, Mexico exported to Cuba rice to the amount of 1,451,692 pounds, valued at $44,734.

Cuba raises sugar and tobacco, lands are dear, and labor is in great demand, a combination of elements that militates against the commercial exploitation of rice in competition with the fields of the Orient. While some rice is raised, its quantity is negligible, and, as a result, the great demand of the Island is met by importation. The imports in 1913 amounted to 279,952,741 pounds, valued at $7,772,634; and in 1914, 250,641,198 pounds, valued at $6,529,735. In 1913, Germany supplied, in round numbers, 106,000,000 pounds, and British India, 61,000,000 pounds; the respective quantities in 1914 being 44,000,000 and 48,000,000 pounds. Imports from the United States amounted in 1911 to 2,277,617 pounds, valued at $52,687; 1912, 9,140,407 pounds, valued at $246,214; 1913, 669,179 pounds, valued at $28,793; 1914, 11,378,020 pounds, valued at $414,768; 1915, 25,340,501 pounds, valued at $999,810; and 1916, 49,127,404 pounds, valued at $1,897,354 — Cuba being the best customer of the United States in this product.

Special Agent Garrard Harris in a report to Washington (Commerce Reports, 27 Jan. 1916), calls particular attention to the high quality of the rice demanded for Cuban consumption. The varieties in universal demand are the Rangoon, or "Semilla," as it is generally termed; the Calcutta, otherwise known as "Old Hard Patna," or "canilla viejo"; the Siam Garden, called "canilla nuevo," and a small quantity of Valencia rice, the last named in packages, and called locally "Bomba," similar to the Domestic Japan so well known on the New Orleans market.

The Dominican Republic is concerned with the tobacco, coffee, and cacao industries, and very few cereals are raised, rice being grown to only a small extent. The imports of this

cereal in 1913 amounted to $736,751; 1914, $485,776; 1915, $908,876; and 1916, $1,080,068. The United States supplied, in 1911 (fiscal year ending 30 June), 35,000 pounds, valued at $1,007; 1912, 43,703 pounds, valued at $1,498; 1913, 54,290 pounds, valued at $2,367; 1914, 48,750 pounds, valued at $1,418; 1915, 6,706,158 pounds, valued at $289,874; and 1916, 9,301,967 pounds, valued at $369,770.

Haiti, as regards industrial conditions, is closely allied with the Dominican Republic. The production of rice is exceedingly small. Imports from the United States in 1911 (fiscal year ending 30 June) amounted to 27,250 pounds, valued at $789; 1912, 71,660 pounds, valued at $2,725; 1913, 109,055 pounds, valued at $4,357; 1914, 33,659 pounds, valued at $1,253; 1915, 95,229 pounds, valued at $4,247; and 1916, 1,135,981 pounds, valued at $47,254.

# Consular Regulations, Documents and Procedure in Latin America

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ALL Latin American countries, except Argentina, Costa Rica, Paraguay and Uruguay, require the presentation of consular invoices for the clearance of shipments, and heavy penalties are provided in some countries for failure to comply with that requirement within a brief time limit. In some countries importers are allowed to clear their shipments without the consular documents, but are obliged to furnish bond for their subsequent presentation. It is therefore highly important for the shipper to forward the consular documents by the same vessel as the shipment which they cover, so as to save the consignee from the imposition of a fine and avoid delay in clearing the shipment.

While there are some minor differences in form between the consular invoices required by the various Latin American countries, they generally call for the following information on the part of the shipper. Names of the shipper, vessel, captain, consignee, port of origin, port of destination, mark, number, and weight of each package, character of packing employed, number of packages, contents, and value. The contents must be given in detail, and information must be supplied in regard to component material, and, in the case of fabrics, detailed information is usually required as to length, width, finish, and thread count. For importation of automobiles, typewriters, etc., information in regard to make is sometimes called for. A separate consular invoice is required for each consignment, and in most cases for each mark, even when constituting part of a consignment.

The number of copies of invoices required to be presented for consular certification ranges from three to seven, most of which are retained by the consul, some for his own files and others for transmission to the customs authorities of the country of destination. While in the case of some countries invoices in English are accepted, it is advisable to use the language of the country of destination, thereby saving the consignee the delay and expense involved in making translations. Some countries, like Guatemala, Panama, and probably Honduras, allow shipping documents to be

certified by a consul at an inland post, others require that such documents be certified by the consul at the port of shipment and therefore it is safer to have all shipping documents certified by the consuls at the port of shipment.

The consular fees charged for the certification of invoices are, with a few exceptions, determined by the value of the shipment and may therefore be regarded as a surtax on the import duty rather than as a fee for services performed. The fees range from $1 per set of invoices, regardless of the value of the shipment, in the case of Haiti, to 6 per cent of the invoice value on some shipments to Colombia. While the certification of bills of lading is required in some countries, in the majority of cases no fee is charged for the service. Invoice blanks are usually sold by the consul at prices ranging from 10 to 90 cents per set. The customs laws of Colombia, the Dominican Republic, Panama, and Venezuela prevent "to order" shipments to those countries, either by failing to require the presentation of a bill of lading for clearance purposes or by specifically prohibiting such shipments. For special regulations in this regard see under those countries in this section. The following pages give specific information under each country in regard to consular documents and also on such subjects as marking of packages, rules for consignments of shipments, shipments requiring special permits, health certificates, certificates of origin, etc.

For the information in this chapter we are indebted to the consuls general (New York) of the several countries, who kindly revised the information in regard to their respective countries. Extensive use also was made of the various publications in the Tariff Series and of other Bulletins of the Bureau of Foreign and Domestic Commerce of the United States.

## ARGENTINA

Shipments to Argentina do not require consular invoices but must be accompanied by a bill of lading in triplicate, the fee for legalizing which is $2 for the set and 50 cents each for extra copies. Merchandise of small quantity and value may be sent on a parcel receipt, fee for which is 50 cents. The bill of lading for a shipment of merchandise must be accompanied by a certificate of origin in triplicate (which forms part of the bill of lading and for the legalization of which no charge is made) specifying the marks and numbers of the packages, kind of package, class of merchandise, weight (gross or net) and the country of origin of the merchandise. A certificate of origin is not required with a parcel receipt. The value of merchandise need not be given on bill of lading, but this information must be given to the steamship companies for inclusion in their manifests. Shipping documents may be obtained from steamship companies.

Packages should bear the shipping mark, numbers, and name of steamer on two adjacent sides, and the marking of gross and net weights on packages is advisable. Labels on containers of animal products must give name of product, weight of contents, name of manufacturer, place of origin and date of manufacture. Consignments of crude petroleum must be accompanied by legalized certificates of origin, giving the region or district of production. The sanitary origin of potatoes and their sound condition must be attested to by a certificate which is visèed by an Argentine consul at a cost of $2. Argentina has consular offices in the following cities: Apalachicola, Fla.; Baltimore, Md.; Boston, Mass.; Brunswick, Ga.; Chicago, Ill.; Fernandina, Fla.; Mobile, Ala.; New Orleans, La.; New York, N. Y.; Norfolk, Va.; Newport News, Va.; Pascagoula, Miss.; Pensacola, Fla.; Philadelphia, Pa.; Port Arthur, Tex.; Portland, Me.; St. Louis, Mo.; San Francisco, Cal.; Savannah, Ga.; Tacoma, Wash.

## BRAZIL

Shipments to Brazil require a consular invoice in quadruplicate. This invoice may be made out in English or Portuguese, but invoices in English are subject to a charge for translation, payable by the consignee. Invoices are not required on shipments valued at not more than $47.50, including freight, packing, commission, etc. Invoice blanks are not sold at the consulates, but may be obtained from stationers at slight cost. No consular invoice can be produced for legalization after the departure of the vessel carrying the goods referred to on said invoice, and if such an invoice will be produced for said purpose it shall not be legalized owing to the penalty imposed on the consignee for the non-production of said invoice at the proper time. The non-production of a consular invoice makes the consignee liable to a fine amounting to the double of the duties to be collected on the goods. It is compulsory that on the consular invoices should be stated in the respective place for said purpose, the country where the goods were purchased for export to Brazil, as well as the declaration of the country of origin, the name and nationality of the vessel, also whether steamship or sailing vessel, port of shipment, the destination of the merchandise, the total declared value including cost and approximate freight and expenses, quantity and nature of packages, whether cases, barrels, casks, crates, bales, etc., marks and numbers of packages, specifications of the goods, gross and net weight of packages, the value of each article, country of origin. Importers of wines, oils, canned goods, and similar products must declare the weight per package, if the goods are in packages of uniform size, or if the size of the parcels varies, the weight of each individual package. The consular fee for certification of bills of lading was increased from $1.10 to $1.38 in 1916. Consular invoices are legalized for $2.20 and steamship companies collect $1.38 on each set of bills of lading, this sum being eventually turned over to the consul. No consular invoice can bear more than one mark. Brazil has a consulate general in New York, N. Y., and vice-consulates in the following cities: Baltimore, Md.; Boston, Mass.; Brunswick, Ga.; Chicago, Ill.; Fernandina, Fla.; Gulfport, Miss.; Mobile, Ala.; New Orleans, La.; Norfolk, Va.; Newport News, Va.; Pascagoula, Miss.; Pensacola, Fla.; Philadelphia, Pa.; Port Arthur, Tex.; St. Louis, Mo.; San Francisco, Cal.; San Juan, P. R.; Savannah, Ga.

## BOLIVIA

Shipments to Bolivia may be made in transit via Chile, Peru, Brazil, and Argentina. No through bills of lading are issued. Shipments to Bolivia via Mollendo, Peru, require five copies of consular invoices, while four are required for shipments via Antofagasta and Arica, Chile; Para and Manaos, Brazil; and Buenos Aires and Rosario, Argentina. Consular invoices must be in Spanish, and accompanied by the bills of lading, commercial invoices, and other documents necessary to prove the actual market value of the merchandise. Only one copy of the consular invoice is returned to the shipper. The consular invoice must give the name of the consignee at the place of transshipment, the name of the consignee in the Bolivian city or town of destination, and the net and gross weight in kilos. If there is no custom house at the place to which goods are consigned, the custom house destination also must be specified in the consular invoice. Custom houses are located at La Paz, Oruro, Villazon, Puerto Suarez, Uyuni, Yacuiba, Villa Bella, Cobija, and Manoa. For fire arms, ammunition, etc., a permit must be obtained from the Bolivian government to receive such merchandise. Marks, numbers and net and gross weights should appear on all packages, which also should be distinctly marked "En transito á Bolivia." The consular fees for invoices are $3 for shipments less than $200 in value, 2 per cent for those of $200 or more in value, and $1 for extra copies. Consular invoice blanks must be purchased at consulate and the charge for a set of five is $0.90, and $0.75 for a set of four. The consulates of Bolivia in the United States are located at Baltimore, Md.; Boston, Mass.; Chicago, Ill.; Kansas City, Mo.; Mobile, Ala.; New Orleans, La.; New York, N. Y.; Norfolk, Va.; Philadelphia, Pa.; San Diego, and San Francisco, Cal.; Seattle, Wash.

## CHILE

Shipments require four copies of the consular invoice, two of which are returned to the shipper. Any alteration or erasure on invoices render them valueless. If an error is made, a separate letter of correction in triplicate, preferably in Spanish, must be presented to the consul. Three dollars is the charge for letters of correction, but in the case of change of steamer a new consular invoice must be made out for which new fees are collected. Parcel post shipments require a consular invoice if the value of the shipment exceeds $25. Where a consignment includes several packages and the total value exceeds this amount, one consular invoice is required. If parcel-post shipments are forwarded from a place where there is no Chilean consular officer invoices must be sent to the Chilean Consul-General at New York for certification. Bills of lading must be presented to the consul, who certifies one copy and returns it to the shipper and retains the other for his files. Goods may be shipped either direct or "to order." Firearms, munitions, etc., require no special permit. A stencil must be used in marking packages for shipment, and the gross weight in kilos of each package must be marked thereon. Consular fees are payable at the following rates: certification of a bill of lading of merchandise shipped to Chilean ports, per copy $0.75; certification of invoices which must be presented at the Chilean custom house for clearance of merchandise; on shipments not exceeding $200 in value, $3; exceeding $200 in value ¾ per cent. Each extra copy of invoice 75 cents; legalization and identification of a signature to a document, $3; filing a document, $3; an authorized copy of a document executed or filed in the consulate, per page $1.50; translation of

documents or certification of a translation, per page, $1.50; set of four consular blanks, 20 cents. Chile has the following consulates in the United States: Including a consulate general at New York, the head of the service in U. S. A.: Baltimore, Md.; Boston, Mass.; Chicago, Ill.; Honolulu, Hawaii; Mobile, Ala.; New Orleans, La.; Norfolk, Va.; Philadelphia, Pa.; Portland, Ore.; San Francisco, Cal.; Seattle, Wash.; St. Louis, Mo.

## COLOMBIA

Shipments to Colombia require five consular invoices, written in Spanish. One copy is given to the steamship company, and four are presented to the Colombian consul the day before the ship sails. The consul returns to the shipper one copy duly certified and signed. Three copies are transmitted by the consul to the Colombian customs officials. Each invoice must show the name of shipper, name of vessel, names of consignee and owner of the goods, the mark and number of each package, contents of each, net and gross weights, value per package, and the total f. o. b. value of the shipment; also, in a separate line, total amount of freight, insurance, and commission (if any) to the port of entry. A separate invoice must be made for each mark, even if different marks represent the same consignee. Parcel-post shipments do not require certified invoices, but they are subject to a surtax of 5 per cent of the declared value. Merchandise for the interior must be consigned to an agent at the port of entry. Shipments must not be consigned "to order." Bills of lading must give the name of the shipper, name of consignee at the port of entry, name of steamer, number of each package, number of packages of different kinds, gross weight in kilos, and total value of shipment. Five copies of the bill of lading, together with one copy of the consular invoice, must be presented to the steamship company the day before sailing. Two or more copies are returned by the steamship company, with the amount of freight written on them, and duly signed. One of the signed copies is mailed to the consignee with the certified copy of the invoice. Each package should be marked and numbered distinctly, and it is advisable to mark the weight on each package, though this is not required by law. For the purpose of the payment of consular fees, shipments are divided into three classes, according to the character of the contents. To avoid delays in certification, it is necessary that each invoice should cover articles only falling under one class.

*First Class* (exempt from consular fees).— Gold and silver, coined or in bars, not inferior to 0.900, articles ordered officially by the national government or that of the departments, articles of personal use for foreign diplomatic representatives, only when the nations they represent grant equal exemption to Colombian diplomats, plants, live animals, agricultural seeds, serum and medicinal vaccine, and textbooks and school supplies.

*Second Class* (1 per cent of value).— Iron, steel, copper, zinc, wood, coal, oils and greases for machinery and for paint; prepared paints destined for steamship, railroad, manufacturing enterprises, or for other public uses, artificial manures, sulphuric acid, sulphur, motors, steam and electric generators, agricultural implements, mining implements, hardware, metal roof tiling, tubing of all kinds, ropes of manila fibre, sisal or hemp, metal cables, wire fencing, wire for electrical purposes, pumps of all kinds, sodium salts for treatment of metals and pig or sheet metal.

*Third Class.*— Articles of gold or silver, and precious stones, set or not, 6 per cent of the value; all other articles, 3 per cent of the value. Consular blanks are

sold at 10 cents per set of five. Colombia has consulates in the following cities of the United States: Baltimore, Md.; Boston, Mass.; Chicago, Ill.; Gulfport, Miss.; Los Angeles, Cal.; Mobile, Ala.; New Orleans, La.; New York, N. Y.; Norfolk, Va.; Philadelphia, Pa.; St. Louis, Mo.; San Francisco, Cal.

## COSTA RICA

Consular invoices written in Spanish and in quadruplicate are required. No charge is made for certification of such invoices. Three of the certified invoices are attached to the bill of lading and forwarded to the consignee not later than the date of shipment. When different classes of goods are packed together the articles should be itemized and the legal or net weight of each specified, and the use of general terms, such as "stationery" or "hardware", should be avoided. A special permit from the consul is required for shipments of firearms and ammunition. Shipments may be consigned either direct or "to order". The form of invoice is sold by the Consul-General of Costa Rica, New York, at 25 cents per set. Consuls of Costa Rica are located in the following cities of the United States: Baltimore, Md.; Boston, Mass.; Chicago, Ill.; Galveston, Tex.; Los Angeles, Cal.; Mobile, Ala.; New Orleans, La.; New York, N. Y.; Norfolk, Va.; Philadelphia, Pa.; Portland, Ore.; Richmond, Va.; St. Louis, Mo.; San Francisco, Cal.

## CUBA

Invoices, of which 5 sets are required, must be written on durable paper, in indelible ink, and may be in English or Spanish. If typewritten, the original copy must be presented; duplicates, etc., may be carbon copies. Invoices must contain name of shipper and consignee, name of vessel, marks and numbers, description of merchandise, specifying the component materials, gross and net weights of each article in kilos, detailed price and total value, including a statement of the expenses incurred on account of the merchandise up to the time it is packed and ready for shipment. Prices should not be added up, but the price of each article or class of goods should be given separately. If there are no expenses this should be noted. In describing the merchandise, particular care must be taken in making a thorough statement of the materials of which it is composed, example: if knives, state knives of steel with wooden handles or bone handles, as the case may be; if shoes, state made of leather, with tops of cloth, canvas, etc.; if machinery, state if of steel or steel and brass, or any other metals; if furniture, made of oak, mahogany or pine wood. Besides the marks, numbers, classes, quantity and gross weight of packages, the following particulars will be required on invoices covering shipment of tissues to Cuba: 1. Nature of fibre (cotton, linen, wool, silk, etc.) 2. Kind of tissue (plain, smooth, twilled, damask-like, or whether it is or not embroidered). 3. Bleached, half-bleached, stamped, dyed by the piece or woven with threads dyed before being woven. 4. Number of threads in six square millimeters ($\frac{1}{4}$ inch). 5. Length and width in meters and centimeters. Weight of 100 square meters. 7. Price of the unity and partial value of each kind, and nature of same.

At the bottom of the invoice, or on last sheet, if there are more than one, the manufacturer, producer, seller, owner, or shipper must write in Spanish and sign one of two declarations, according as the article shipped is, or is not, the product of the soil and industry of the United States. If the manufacturer, etc.,

is not a resident of the place where the consulate is located, a local agent must be appointed to present the invoice, and such appointment must be in writing. In this case the agent must write and sign the following declaration: "Declaro que soy el agente autorizado por la persona que ha suscrito la anterior declaración, para presentar esta factura en la oficina consular de Cuba en esta plaza, a fin de que sea certificado." ("I declare that I am the agent authorized by the person signing the preceding declaration to present this invoice at the consular office of Cuba in this city for the purpose of certification.") Goods other than the product of the soil or industry of the United States should be placed on a separate consular and commercial invoice. Invoices need not be certified when merchandise is shipped from a port where there is no Cuban consul. Household goods, shipped as freight, require a certified invoice, but if shipped as personal baggage no invoice is required, but a declaration must be made before the customs authorities in Cuba to the effect that the household goods are for personal use. Two copies of the bill of lading must be visèed (fee $1.00) by the consul, who retains one copy. To avoid delay in forwarding the negotiable bills of lading, shippers are authorized to present for visèing, instead of a set of bills of lading signed by the steamship company, two exact copies thereof, bearing in indelible characters on the face, the statement: "This consular bill of lading is not negotiable, and is valid only for customs purposes." Packages should show gross weight. Shipments may be consigned either direct or "to order." A certified consular invoice is necessary in the case of all articles of United States origin imported into Cuba, whether shipment is made by mail or otherwise, in order that the lower duties applicable to United States products may be imposed. No charge is made for consular certification where the value of the shipment is less than $5. For invoices valued from $5 to $49.99 the fee is 50 cents; from $50 to $200 the fee is $2; over $200, $3, plus an additional charge of 10 cents for each $100 or fraction thereof in excess of $200. Extra copies of invoice cost 50 cents each, and invoice blanks may be obtained for 10 cents per set. A fee of $1 is charged for certifying each set of bills of lading. Cuban consulates are located in the following cities of the United States: Aguadilla, P. R.; Arecibo, P. R.; Atlanta, Ga.; Baltimore, Md.; Boston, Mass.; Brunswick, Ga; Chattanooga, Tenn.; Chicago, Ill.; Cincinnati, Ohio; Detroit, Mich.; Fernandina, Fla.; Galveston, Tex.; Gulfport, Miss.; Jacksonville, Fla.; Kansas City, Mo.; Key West, Fla.; Los Angeles, Cal.; Louisville, Ky.; Mayaguez, P. R.; Mobile, Ala.; New Orleans, La.; New York, N. Y.; Newport News, Va.; Norfolk, Va.; Pascagoula, Miss.; Pensacola, Fla.; Philadelphia, Pa.; Ponce, P. R.; San Francisco, Cal.; San Juan, P. R.; Savannah, Ga.; St. Louis, Mo.; Tampa, Fla.; Washington, D. C.

## DOMINICAN REPUBLIC

Four copies of the consular invoices and four copies of the bills of lading must be presented by the shipper for consular certification. The invoices should be made out in Spanish and must contain the names of the shipper, captain, consignee, importer, ports of shipment and destination, and steamer, and its nationality as well as the mark, gross and net weights, contents, kind, and value of each package. A separate invoice is required for each consignment, and for each mark, even when applied only to a part of a consignment. Packages of uniform contents, weight, form, mark, and number may be included in one item in the invoice. Weight need not be marked on the packages. The bills of lading

must show the marks, numbers, and gross weight of packages. Shipments of firearms, ammunition, etc., require a special government permit to the consignee. Shipments *must not* be consigned "to order." The consignee can claim goods upon presentation of the consular invoice, and to protect the shipper it is a common practice to consign shipments to banks or to shippers' agents, so that the shipping documents are not turned over to the ultimate consignee until his acceptance of the draft. The consular fees for certification of invoices are payable at the port of entry at the following rates: Invoices $50 or less in value, $1; $51 to $200 in value, $2; $201 to $1,000 in value, $3; $1,000 to $2,000 in value, $4; $2,001 to $4,000 in vaule, $5; over $4,000 in value, $5, plus $1 for each additional $1,000 or fraction thereof. Invoice blanks are sold by the consulate at 10 cents the set of four, the small form, and 15 cents the set of four, the big form. The Dominican Republic has consuls at: Baltimore, Md.; Boston, Mass.; Chicago, Ill.; Kansas City, Mo.; Mobile, Ala.; Newport News, Va.; New York, N. Y.; Philadelphia, Pa.; San Francisco, Cal.; Wilmington, N. C.

## ECUADOR

Consular invoices, as well as manifests should be made out in seven copies, five of which must be presented for consular certification. The consul returns one signed copy to the shipper. A separate invoice is required for each mark. Shipments may be consigned direct or "to order." Packages should show gross weight in kilos. Consular invoices must be made out in Spanish and contain the following data: names of the shipper, the consignee, the steamer and its captain, the flag of the ship, port of destination, the total value of the merchandise covered by the invoice, the marks, numbers, and the number of packages, their kind, whether bales, boxes, barrels, etc., gross and net weight in kilos (net weight includes inner container or wrapping) of each package or of a number of packages, specifying the kind of merchandise, without using general terms, such as hardware, cottons, etc. The fee for certification of consular invoices up to $50 in value is $1, for invoices of more than $50, 3 per cent of the declared value. Consular blanks cost 20 cents per set of seven. There is no charge for certification of bills of lading. The steamship companies make the following additional charges: For invoices not exceeding $50 in value, $0.40; for invoices more than $50 in value, 1.2 per cent of the invoice value. There are consuls in the following cities: New York, N. Y.; New Orleans, La.; San Francisco, Cal.; Philadelphia, Pa.

N. B. The new Ecuadorian customs law of February 1917, which was to go into effect on 1 June 1917, was suspended on 18 May 1917.

## GUATEMALA

For shipments to Guatemala a set of five invoices, in Spanish, must be submitted to the consul before the steamer or vessel leaves the port, and must contain the names of shipper and consignee, place of origin, port of destination, name of vessel, the mark, number, gross and net weights, contents, and character of each package, also the total value of the invoice, the details of the contents of each package, with the sworn and signed declaration of the shipper as to the correctness of said value. Each package must be numbered. Different marks require separate invoices, even when shipped to the same consignee, and packages destined for different ports cannot be put on the same invoice. Importations of firearms, ammunition, and electrical goods require a special permit from the

Guatemalan government. Bills of lading must accompany the consular invoices when presented for certification. The consul certifies four copies of the bill of lading without charge. Steamship companies require from three to five copies of the bill of lading. The charge for certifying invoices is 2 per cent ad valorem; for the legalization of ship manifests, $10; for the certification of sets of bills of lading (four copies) $1, and $1 for each additional copy; for legalizing health certificates, $2; for certifying signatures of documents required by the Guatemalan government, $3. Guatemala has the following consulates in the United States: Baltimore, Md.; Boston, Mass.; Chicago, Ill.; Galveston, Tex.; Gulfport, Miss.; Jersey City, N. J.; Kansas City, Kans.; Louisville, Ky.; Mobile, Ala.; New Orleans, La.; New York, N. Y.; Pensacola, Fla.; Philadelphia, Pa.; Providence, R. I.; St. Louis, Mo.; San Diego, Cal.; San Francisco, Cal.; San Juan, P. R.; Seattle, Wash.

## HAITI

Six copies of each invoice are required to be presented for certification, the consul retaining four copies and returning two to the shipper, who must send one to the consignee by the boat which carries the shipment. Each copy of the invoice must be accompanied by a copy of the bill of lading, which must also be certified by the consul. Packages must bear consecutive numbers, the net weight in pounds, the counter marks, and the name or initials of consignees. The declaration, invoices, and bills of lading, as well as all other papers used in connection with the manifest, should bear the same marks, names and countermarks. Shipments of cordage and beer require a certificate of origin (English or French) from the manufacturers. No special form is provided for such certificates, which must be sworn to before a notary public and certified by the consul together with the invoice. A fee of $1 is charged for certifying set of six consular invoices and six bills of lading, and 50 cents for legalization or visé of certificate of origin. Consular blanks cost 6 cents per set of six. There is, in addition, a consular visé fee of 1 per cent ad valorem, collected at port of destination, from the consignee. Haiti has the following consulates in the United States: Boston, Mass.; New Orleans, La.; New York, N. Y.; Chicago, Ill.; Savannah, Ga.; Wilmington, N. C.

## HONDURAS

Shippers of merchandise to Honduras must present to the consul at the port of shipment four copies of an invoice in Spanish, stating the name and the address of the shipper, the class and name of the vessel, the name of the captain, the name of the person for whom the merchandise is destined, the port of destination, the date of departure of the vessel, the marks, number of each package, gross and net weight of each in kilos, the kind of packages, as bags, boxes, etc., the total value of the invoice, giving in detail the value of each package or lot of packages of uniform contents, the name of the merchandise contained in each package, the weight and origin of same, the value of the merchandise in American currency, the alcoholic strength of wines and liquors, the declaration sworn to and signed by the shipper as to weight, values, etc.

Should there be neither consul, vice consul, nor consular agent at the port of shipment, the invoices may be signed by a consul or consular agent of any other Central American Republic, or should there be none, by one of another friendly nation, and the signer shall observe the provisions of the law and charge

the established fees. However, should there be at the port of shipment none of the above mentioned officials, the shipper shall himself prepare three copies of the invoice, of which he shall send one each from the local post office, by registered mail, to the department of the treasury of Honduras and to the chief of customs of the port of destination, obtaining from the post office the corresponding receipts, and he shall indicate on the envelopes the date and port of departure of the merchandise and the port of destination; the other copy of the invoice, together with the receipts issued by the post office, shall be forwarded to the consignee."

Shipments to Honduras must also be accompanied by a copy of the commercial invoice, which will be certified by the consul without charge. This is forwarded to the consignee for presentation at the customhouse. Steamship companies require shippers from interior points to furnish two copies of the commercial invoice. Goods may be consigned direct or "to order." Separate invoices must be made for each mark, even if the different marks represent the same consignee. Each package should be numbered. The consular fees are as follows: For certifying four invoices, if the invoice does not exceed in value $25, $1; more than $25 but not exceeding $50, $1.50; more than $50 but not over $100, $3; more than $100 but not over $500, $6; over $500 but not over $1,000, $10; above $1,000, $10 for the first $1,000 and 25 cents for each additional $100 or fraction thereof, up to $10,000. Above $10,000, $32.50 plus 50 cents for each additional $100 or fraction thereof. For certificate of loss of a consular invoice, $2. Invoice blanks are sold at 30 cents per set of four. There are consuls of Honduras at Boston, Mass.; Chicago, Ill.; Cincinnati, Ohio; Detroit, Mich.; Galveston, Tex.; Jacksonville, Fla.; Kansas City, Mo.; Louisville, Ky.; Mobile, Ala.; New Orleans, La.; New York, N. Y.; Newport News, Va.; St. Louis, Mo.; San Diego, Cal.; San Francisco, Cal.; Tampa, Fla.; and Washington, D. C.

## MEXICO

N. B.—The following data are taken from the Mexican Code of Customs Procedure published in 1912, and show the regulations in force under normal political conditions. The fees stated are based on the gold peso (value $0.4981), and not on the present fluctuating currency.

For shipments by rail via El Paso, Eagle Pass, Laredo, or Nogales the consular invoices are taken out at the frontier by the railroad companies on the basis of the information furnished by the shipper in his manifest. Shippers of merchandise to Mexican ports must present invoices in quadruplicate for consular certification, even in the case of merchandise exempt from the payment of duties. The invoices must state the class, nationality, and name of the vessel in which the goods are shipped, the name of the captain, that of the consignee of the merchandise, and that of the port of destination, the marks, countermarks, and numbers on the packages, the quantity, expressed in figures, of the bales, boxes, or any other kind of packing in which the goods may be inclosed, with their respective gross weights, written out, and the total number of packages, written in figures and in letters, also the weight, net or legal, written out, of goods dutiable by weight, the number of pieces, pairs, or thousands of articles on which duty is paid by the piece, pair or thousand, the length and width of articles that pay duty by measure, stating the unit of measure that is used as a basis, all written out. The invoice must also state the name, component material, and kind of merchandise, and in case of merchandise not enumerated in the tariff nor mentioned in the alphabetical tariff schedule, all data necessary for its classification shall

be given, the name of the country from which the merchandise is sent and the value of each item of the shipment, the name of the place in which the invoice is made out, the date of invoice, and the signature of the shipper, with statement that the values assigned to the merchandise therein are stated correctly. Shippers may pack in one case several parcels, boxes, bags, bales, or other packages containing the same class of goods, provided that they specify in the consular invoice the number of packages contained in each bundle, bale, or case. Failure to comply with this requirement is punishable by a fine not to exceed 50 pesos. The corresponding gross, net, and legal weights of packages which, although containing the same kind of merchandise, come in separate receptacles, must be indicated in the consular invoice. Packages containing fabrics may be combined in one item, with their weights and measures added up, if the goods come under the same class in the tariff and the difference in their respective weights does not exceed 10 kilos. In places where there is no Mexican consul or commercial agent shippers should prepare the invoice in triplicate; in all other places, in accordance with the foregoing regulations. The invoices should be forwarded, on the same day, by registered mail, one copy to the Department of Customs and one to the collector of customs at the port of destination. The shipper must obtain the corresponding receipts from the postmaster and forward them to the consignee at the port of destination, who must submit the same to the customs authorities, together with the third copy of the invoice for clearance purposes. In case of error discovered after consular certification, a statement in quadruplicate declaring the error may be presented to the consul, who seals, certifies and returns one copy to the shipper for remittance to the consignee to be presented with the invoice for which there is a charge of $2 attached. Shipments may be consigned either direct or "to order." For shipments of live stock or meat, the consular invoices must be accompanied by health certificates issued by a veterinary expert designated by the consul. The fees for certification of invoices are, in the case of shipments valued at 3 per cent of total commercial value of consular invoice, no minimum; set of invoice blanks, 10 cents; legalization of signatures, each $4; statements of alterations on invoices, per set, $2; certificates of any kind issued to shippers, $2. Consular invoices covering shipments of legal coins, other than 1 peso Mexican coins, provided no merchandise appears on the invoice, are issued without charge.

## NICARAGUA

Six copies of consular invoices in Spanish are required. These must give the name of the vessel, port of destination, the consignee, the country of origin, the date of shipment, and signature of shipper, the number (in figures) of bales, cases, barrels, bundles, etc., that contain the merchandise, also the mark and number used to designate each package, its gross and net weight, excepting in the case of iron, machinery, railway material, which may be given with the total weight of each item, the name and component material of the merchandise specified, in exact conformity with the nomenclature of the customs tariff, and value of the articles, stating the currency taken as a basis. Erasures of all kinds, vague and ambiguous declarations, or writing between lines are not allowed. Two copies of bills of lading (the original and a duplicate) must be presented to the consul for certification, after having been signed by the steamship company. Each package must bear a mark and number and separate consular invoices are required for each mark even when shipped to the same consignee or buyer. Not over 10 different kinds of goods may be packed in one case. When merchandise subject to different

tariff classification is inclosed in one container, each class must be packed or wrapped separately so that its respective weights may be compared with that declared in the invoice and the respective duty levied on each class. An additional charge of 5 per cent of the duty is levied in case of failure to observe this requirement. Certain articles, including dry wines, quinine, certain dried and preserved fruits, leather, shoe materials, surgical instruments, etc., which are admitted from the United States and certain other preferred countries at a reduction of 25 per cent of the regular duties, require a certificate of origin, made out in Spanish, and it may be issued by a chamber of commerce at place of shipment, by a customs or other responsible official in the Federal or local government possessing a seal of office. So prepared it will be legalized by the consul. Fees for the certification of consular invoices are collected from the consignee by the Administration of the port of entry in Nicaragua; fees for certification for bills of lading ($2) must be paid by the shipper at the original port of shipment. No charge is made for visé of certificates of origin, but the forms may be had for 5 cents per set of three (the required number), and consular blanks for 15 cents per set of six for the first or original pages and 10 cents per set for second or continuation sheets. Nicaragua has the following consulates in the United States: Chicago, Ill.; Kansas City, Mo.; Kansas City, Kans.; Mobile, Ala.; New Orleans, La.; New York, N. Y.; Norfolk, Va.; Philadelphia, Pa.; St. Louis, Mo.; Sacramento, Cal.; San Francisco, Cal.

## PANAMA

Shippers to Panama are required to present for consular certification six copies of the invoice made out in Spanish and four copies of the bill of lading. The invoice must give a detailed description of the goods contained in the shipment, and the quantities should be given according to units used in the trade. In the case of shipments of liquors, the mark, origin, and kind of liquors must be given without abbreviations. The number of bottles or half bottles in each case or barrel must be stated. In the case of certain articles like automobiles, adding machines, typewriters, cameras, etc., the name of the make should be indicated, as well as the catalogue number, so as to enable the consular officer to determine the origin of the goods. Parcel post shipments do not require invoices or bills of lading, but their value must be declared. A separate invoice is required for each mark. Shipments can not be consigned "to order." For the shipments of arms, ammunition, etc., permission must be obtained from the consul. In the case of goods going through Panama to a foreign port, the invoices must be presented to the Panama consul at the port of original shipment. The consular fees are as follows: Set of six invoice blanks, 18 cents; certification of a set of invoices, nine-tenths of 1 per cent of the value of shipment, minimum fee, $1; extra certified copies of invoices, 50 cents; certification of health certificate, $1.80; certificate of set of four bills of lading on shipments not exceeding $100, $1; over $100, $3; a fee of $3 is charged for six copies of letters of correction in declaration of merchandise. Shipments for the Panama Canal Commission are exempted from the payment of consular fees. Panama maintains consul's at Atlanta, Ga.; Baltimore, Md.; Boston, Mass.; Chicago, Ill.; Galveston, Tex.; Gulfport, Miss.; Kansas City, Mo.; Los Angeles, Cal.; Mobile, Ala.; New Orleans, La.; New York, N. Y.; Norfolk, Va.; Pensacola, Fla.; Philadelphia, Pa.; Puget Sound, Wash.; St. Louis, Mo.; San Diego, Cal.; and San Francisco, Cal.

## PARAGUAY

Consular invoices except in shipments via Montevideo, are not required, these documents being forwarded from the point of transshipment on the river Plata. Uruguay, however, requires that shipments to Paraguay via Montevideo be accompanied by two copies of the invoice, certified by the consul of Paraguay at the point of shipment. Certificates of origin of a special form in duplicate and bills of lading in triplicate are required for all shipments. Packages may be marked as desired. Weights and measures must be according to the metric system. Bills of lading must be certified by the Paraguayan consul at the port of shipment, and must also be visèed by the consul of Uruguay who requires one non-negotiable copy in Spanish, if the goods are shipped via Montevideo, but not by the consul of Argentina, if the shipment is via Buenos Aires or Rosario. All goods destined for Paraguayan ports, having to be transshipped at Montevideo or Buenos Aires, should be packed in cases that may be easily handled and adapted to rough usage. A fee of $2 is charged for certifying a set of three negotiable bills of lading, and one non-negotiable consular copy for Paraguayan consul, and 50 cents for each additional negotiable copy. There is no charge for non-negotiable copies, nor for invoices and certificates of origin. Paraguay has the following consulates in the United States: Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Ohio.; Detroit, Mich.; Indianapolis, Ind.; Kansas City, Mo.; Los Angeles, Cal.; Mobile, Ala.; Newark, N. J.; New York, N. Y.; Newport News, Va.; Norfolk, Va.; Philadelphia, Pa.; Richmond, Va.; Rochester, N. Y.; St. Louis, Mo.; San Francisco, Cal.; San Juan, P. R.; Wilmington, Del.

## PERU

Shippers are required to present for consular certification an invoice in quadruplicate, made out in Spanish and stating the names of the shipper, port of destination, consignee and vessel, the marks, numbers, number and kind of packages, contents, and gross and net weight in kilograms of each package. Invoices must be accompanied by bills of lading, or, in the case of shipments without bills of lading, by parcel receipts from the ship company. Shipments may be consigned direct or "to order." No alterations or erasures are allowed in invoices, but corrections may be made by means of letters in quadruplicate and certified by the consul. Shipments requiring transhipment in Peru to a foreign port, require that this fact be mentioned in the invoice, and a special manifest should be presented to the consul. Shipments of plants, seeds, and animals must be accompanied by health certificates, certified by the consul. Shipments of lard must be accompanied by the certificate from the Department of Agriculture's inspectors. This is to be certified by the consul; fee $2. Packages should show gross weight. Callao and Mollendo are the only ports where explosives, firearms, etc., may be imported without special permit. Consular blanks cost 30 cents per set of four. The fee for certifying a set of invoices is 2 per cent of the invoice value of the shipment. Extra copies of the invoice may be obtained at $1. There is no charge for certification of bills of lading. Peru has consulates in the following cities: Baltimore, Md.; Boston, Mass.; Chicago, Ill.; Los Angeles, Cal.; Mobile, Ala.; New Orleans, La.; New York, N. Y.; Norfolk, Va.; Philadelphia, Pa.; Portland, Ore.; Port Townsend and Puget Sound, Wash.; San Diego, Cal.; San Francisco, Cal.; St. Louis, Mo.; Toledo, Ohio.

## EL SALVADOR

A consular invoice, written in Spanish and in quadruplicate must accompany *all* shipments. Such invoice must contain the name and address of the shipper, the vessel, the captain thereof, the port of destination, the name of the consignee, and that of the person to whose order and account shipment is made. Consular invoice blanks are furnished at the rate of 25 cents per set of four. Invoices for shipments, of value not over $25, are certified for $1; from $26 to $100, $1 plus 2 per cent on amount over $25; from $101 to $500, $2.50 plus 1½ per cent on amount over $100; from $501 to 1,000, $8.50 plus 1 per cent on amount over $500, from $1,001 to $5,000, $13.50 plus one-half of one per cent on amount over $1,000, from $5,001 to $10,000, $33.50 plus one-eighth of 1 per cent on amount over $5,000; more than $10,000, $39.75 plus one-tenth of 1 per cent on amount over $10,000; A visé of certificate of origin costs $1 and the same charge is made for viséing a set of bills of lading. Consuls of Salvador are located at New Orleans, La.; New York, N. Y.; Philadelphia, Pa.; San Francisco, Cal.

## URUGUAY

No consular invoices are required, but a set of three bills of lading must be certified at the port of shipment. One copy of the bill of lading must be made out in Spanish, and must give the port of shipment and destination the number and kind of packages, gross and net weights, cubic measurements, marks and numbers, total value in American currency, and detailed description of the merchandise. Weights need not be marked on the packages. Moreover a certificate of origin of merchandise for Uruguay must be presented in duplicate and certified by the consul or vice consul. The original will be sent to the consul or vice consul at the port of shipment. The duplicate must be sent by the shipper to the agent of the boat carrying the goods. The steamship company will present this duplicate together with the other documents, such as general manifest, bill of lading, parcel receipts, etc., at the time of clearance of the vessel. The certificate of origin must be filled in in either Spanish or French in accordance with the items thereon. They must specify the kinds, numbers and quantity of packages or nationality of the goods, total value in American currency, and the ports of shipment and of destination, transit, optional, etc. Declarations on the certificates of origin (as per rules for bills of lading, parcel receipts, etc.) must be made out in black ink, or typewritten. Pencil will not be accepted, and these certificates must be without alteration, words or numbers crossed out or written between lines. Once legalized and stamped, the certificates of origin, as in the case of legalization of all other documents required for the shipment of goods and the clearance of vessels, its declaration cannot be corrected or altered. In case of mistakes, if found before sailing time, must be made known to the consul or vice-consul in order that same may be noted, or by letter in triplicate, if found after sailing time, which are legalized like bills of lading. Stamps cannot be charged from one set to another. Four copies of the ship's manifest must be presented to the consul, and three of them must be in Spanish. All consignments must be specified with great particularity, and manifests must state the numbers of the bills of lading, the marks, numbers, quantities, nature, and contents of packages, as well as their gross or net weight or measurement. The fee for consular certification of certificates of origin is 53 cents in the case of articles shipped on bill of lading, or parcel

receipt and 21 cents in the case of goods sent by parcel post. Other fees for legalization of documents are: Bills of lading, direct, optional, transit or reshark, 5 cents; parcel receipts of goods having a value, 5 cents; parcel receipts of goods for samples and without a value, 21 cents; certificates to accompany shipments of petroleum, plants, and animals, each, $2.10. Uruguay has consulates in the following cities: Albany, N. Y.; Baltimore, Md.; Boston, Mass.; Brunswick, Ga.; Chicago, Ill.; Fernandina, Fla.; Galveston, Tex.; Jacksonville, Fla.; Kansas City, Mo.; Los Angeles, Cal.; Mobile, Ala.; New York, N. Y.; New Orleans, La.; Newport News, Va.; Norfolk, Va.; Pensacola, Fla.; Pascagoula, Miss.; Philadelphia, Pa.; Port Arthur and Sabine Pass, Tex.; Richmond, Va.; San Francisco, Cal.; Savannah, Ga.; Seattle, Wash.

## VENEZUELA

Four copies of the consular invoice must be presented for certification at the consulate. The invoice must contain names of shipper and consignee, ports of shipment and destination, class of vessel, its name, nationality, name of its captain, the mark, number, kind, and destination of each package, its contents, exact gross weight in kilos, and its value. The contents must be declared by designating the name of each kind of merchandise, without abbreviations or the use of ditto marks, mentioning the component material and the quality or circumstance which distinguishes it from other merchandise of the same name specified in the tariff under a different classification. Packages having the same contents, size, weight, and form, such as bags, cases, barrels, etc., of cereals, soap, and similar merchandise, marked with the same numbers and marks, may be included in one item. If the shippers are not acquainted with the Spanish language, the consular officer must translate the invoice, making three extra copies of the translation. When the original invoice does not exceed 30 handwritten lines, the charge is $3 gold for the four copies of the translation, a charge of 3 cents is made for each additional line. Packages with different marks may be included in one invoice. Consular invoices should be presented for certification not later than three hours before the sailing of the vessels so that the consul may have sufficient time for their examination and for insertion of the required data. Bills of lading do not require certification, but, if presented, five copies will be certified by the consul without charge, a charge is made should more than five copies be desired. It is not permissible to consign goods "to order," and a penalty of from 750 to 2,000 bolivars ($150 to $400) is imposed on the captain of a vessel carrying such shipments, which are also subject to a surtax of 25 per cent of the duty. All shipments of foodstuffs should bear a Government stamp of inspection or be accompanied by a sworn statement that the goods have been inspected by competent authority. Great care should be exercised in making out the invoices, as fines are imposed for even slight irregularities. Fees for consular documents are as follows: for invoices up to $100 value, $3.75; from $100.01 to 200, $5; from $200.01 to $800, $7.50; for each additional $200 or fraction thereof, $1.25; extra copies of invoice, each $1; if an invoice contains more than one mark, there is an extra charge of 25 per cent of the fees for each additional mark. Invoice blanks cost 35 cents per set of four, more than five copies of bills of lading each $1. Venezuela has consulates in the following cities of the United States: Chicago, Ill.; New Orleans, La.; New York, N. Y.; Philadelphia, Pa.; San Francisco, Cal.; St. Louis, Mo.; Mobile, Ala.; Norfolk, Va.; Newport News, Va.; Seattle, Wash.; Jacksonville, Fla.; Mobile, Ala.

# Trading Licenses and Taxes

By Irving E. Rines

## Taxes

THE laws and customs relating to taxation in the Latin American countries vary greatly — so much so, in fact, as to render any general statement impracticable. Furthermore, recent data for the smaller countries is scarcely available; any attempt to rehearse the regulations by countries would be futile (and also impossible owing to space limitations), while generalization would be misleading. Accordingly only the briefest review will be given of conditions in the more populous countries and for them only a skeleton outline can be presented. For the details one must consult a great variety of books, since in no one publication, descriptive of any country, will these regulations be found fully and completely presented or properly and systematically arranged and correlated. Persons interested in a particular country or a special section of one country should consult the consul of that country, or obtain information from the International Bureau of American Republics at Washington, D. C.

Article 67, § 2 of the national constitution of Argentina provides that besides taxes upon imports and exports, Congress may impose other taxes "for a period of time and in a manner proportionately equal in all the territory of the nation, whenever the defense of the country, the common safety, or the public good may require it." The indirect tax is the most fruitful fiscal resource, as is proved by the customs revenues which are relatively greater than those of all other taxes combined; other indirect taxes are the consular fees, stamps, dock dues, etc. The group of direct taxes consists of the land tax of the city of Buenos Aires and of the national territories and the commercial and industrial licenses of the Federal capital and the national territories; but of these taxes the nation by law is compelled to give a certain portion to the city and another portion to the National Council of Education. There is also another kind of indirect internal duty — the branch of taxation which is levied on the national industry and national consumption and usually denominated "Inland Revenue." These imposts are levied upon alcohols, beers, matches, tobacco, insurance, etc., the proceeds being given under another heading. Article II of the constitution provides that "articles of national or foreign production or manufacture,

and cattle of all kinds, passing from the territory of one province into the territory of another, shall be exempt from transit duties." Under the system in vogue, however, every article of food and clothing is taxed, whether it comes from the provinces or abroad. In Buenos Aires taxes are imposed on various articles and goods from the outside provinces in the form of octroi dues collected at the city gates. Meat, fish, bacon, vegetables, eggs and other matters are subject to the tax. Advertisements are also taxed.

The national revenues of Bolivia consist mainly of customs duties, the alcohol tax, export duties and other excises, consular fees, etc. The departmental revenues are derived chiefly from the native land tax, the rural property tax, taxes on indirect inheritances and legacies, tithes or dimes and stamped papers for titles, etc., and the tax on the exportation and importation of cattle. Conflicts often occur between the national and municipal governments over the persistent tendency of the latter to impose taxes which directly affect the revenues of the nation or of the department. Some of the larger municipalities have even gone so far as to levy taxes on imports and exports to the detriment of the commercial expansion of the country, with the result that many imported articles are burdened with municipal dues. In some of the customs houses may be found a municipal agent, whose duty is to collect such taxes.

Aside from the customs tariff, which produces approximately two-thirds of the national revenue, the other principal taxes imposed by the national government of Brazil are a "consumo" tax on certain articles of merchandise, collected by compelling such articles to have stamps affixed to them or to their containers; a stamp tax on lottery tickets, and on legal or commercial documents; a passenger tax on all railway and steamer tickets; a tonnage tax on all vessels trading with Brazilian ports and an export tax on all *seringa* shipped from the Federal Territory of Acré. All industries and businesses are taxed and heavy monetary guarantees are exacted of brokers, auctioneers and lottery agents. Other revenues are obtained from the sales of public lands, dividends on government enterprises (such as mines, lands and forests) and incomes from the public services. Receipts for sums of more than 25 milreis must bear a 300 reis stamp, and checks, letters of exchange, memorials, petitions (each page) and all other documents must bear a similar stamp. The books of commercial houses having more than five contos capital must be registered and stamped, the tax being 44 reis per page. Article IX of the constitution gives the states alone power to impose taxes on

the export of merchandise of their own production, on real estate, on the conveyance of property, and on industries and professions. The states also have the exclusive right to impose stamp duties on instruments emanating from their respective governments and on business of local (inland) character. Products in transit from one state to another are exempt from taxation by the exporting state (Art. XI). The states are prohibited from taxing Federal property or revenue or anything utilized in the service of the national government (Art. X). No income tax is imposed anywhere in the Republic.

In Chile Congress alone has power to impose taxes, whether direct or indirect, and no authority of the state nor any individual shall, without its special authorization, impose them under any pretext whatsoever, even if it were as a loan, voluntary or otherwise. Taxation is very low and amounts to only about $4 per capita and the constitution provides that taxes shall be levied ahead for a period of 18 months only. The major portion of the revenue is derived from the export duty on nitrates, the sale of lands in the south and the profits on the state railways, telegraphs and post office. Real estate and also some imports are taxed. There is an internal tax on cigars, cigarettes and cut tobacco, whether of national production or imported.

Governmental income in Colombia is raised by a number of devices, no scientific study of taxation ever having been made. The national government derives its principal income from customs duties and additional income from mines, stamped paper, recording taxes, etc. The departments and the larger municipalities, having no adequate system of land taxation, levy what they may by indirect special taxes, often of an unwise and hampering character, e. g., licenses restrictive of commerce and industry, slaughter house fees, tolls, liquor and other monopolies, etc. Land taxes are extremely low and payment is often evaded. The revenues of the municipal districts, especially the less populous ones, are very limited, the revenue per capita rarely exceeding a dollar gold per year.

In Ecuador no tax or duty shall be levied or collected except according to law, and in the apportionment of taxes due attention shall be paid to the individual wealth or industry of the taxpayers. The Chamber of Deputies has the right to initiate all legislation relating to taxation. In order to encourage the development of the grape industry, domestic grape products are exempted from the payment of Federal and municipal taxes. In Guatemala the state revenue is derived chiefly from the customs duties, liquor

licenses and monopolies; a tax of 6 per cent on landed property; the sale and conveyance of real estate; patents and concessions; foreign companies; redemption of ground rents; etc. In the larger cities of British Guiana, the municipal governments usually assess taxes on lands and buildings at the rate of 2 per cent of their value per annum. In Surinam the legislative assembly is elected by the citizens who pay an annual income tax on not less than 1,400 guilders. In Honduras the educational system is supported indirectly by taxation, 50 centavos (about 20 cents United States currency) per month being the maximum tax that may be imposed upon a citizen for this purpose. In Panama Chinese must pay a head tax of $250 each for the privilege of living in the Republic. In the Dominican Republic no general tax may be levied unless by virtue of a law, nor shall any commercial tax be levied except by the respective municipal council and according to law. Congress possesses the right to approve or reject municipal taxes not established by law.

## Trading Licenses

*Argentina.*— Annual licenses must be paid by everyone conducting any business or trade or exercising any profession in the Federal capital or in any of the national territories. These licenses fall into 54 categories, the amounts charged varying from $5 to $60,000 paper, per annum. Some items of general interest are as follows:

| | Paper |
|---|---|
| Architects and surveyors | $100 |
| Auctioneers | $100 to 1,000 |
| Auctioneers without auction rooms | 50 to 700 |
| Banks | 7,000 to 60,000 |
| Bank branches | 1,000 |
| Business houses (wholesale or wholesale and retail) | 150 to 3,000 |
| Business houses (retail) | 20 to 2,000 |
| Boarding houses and furnished apartments | 50 to 1,000 |
| Brokers and commission agents in general | 50 to 700 |
| Brokers (stock exchange) | 150 |
| Brokers (insurance) | 150 |
| Bonded warehouses (private) | 500 to 10,000 |
| Cooperative societies | 1,000 to 7,000 |
| Consignees of national produce and livestock | 200 to 1,500 |
| Cafés and confectioners | 50 to 1,500 |
| Customs house agents (in the capital) | 200 |
| Customs house agents (in the provinces) | 50 |
| Doctors | 100 |
| Druggists | 150 to 3,000 |
| Dentists | 100 |

| | Paper |
|---|---|
| Electric light and power companies | $10,000 to $20,000 |
| Exporters | 300 to 5,000 |
| Engineers | 50 |
| Gas companies | 10,000 to 20,000 |
| Hotels | 150 to 2,000 |
| Insurance companies (national, dealing with only one class of risk) | 2,000 to 3,000 |
| Insurance companies (foreign, dealing with only one class of risk) | 3,000 to 6,000 |
| Insurance companies on each extra class of risk an additional 50 per cent. | |
| Insurance offices (branches) | 250 |
| Importers of general merchandise | 300 to 5,000 |
| Importers and exporters (both) | 500 to 6,000 |
| Lithographers | 30 to 2,000 |
| Money lenders and pawnbrokers | 5,000 to 7,000 |
| News advertising agencies | 150 to 400 |
| Opticians | 100 |
| Patent and trade-mark agents | 100 to 300 |
| Photographers | 30 to 400 |
| Printing establishments | 30 to 400 |
| Restaurants | 50 to 1,500 |
| Stationers and booksellers | 20 to 1,000 |
| Shipping agents | 60 to 800 |
| Telephone companies (in the capital) | 1,000 |
| Telephone companies (in the territories) | 50 |
| Telegraph companies | 1,000 |

Representatives of foreign firms, without a ship or warehouse for sales to the general public, foreign or traveling commission agent, are taxed $500. The licenses for limited companies in general, unless otherwise classified, cost from $500 to $5,000. Shipping is also taxed, details of which will be found under that heading. Commercial travelers' samples are not admitted duty free but samples of all kinds may be taken into the country under bond for 90 days, renewable for an additional period of 90 days. Commercial travelers carrying samples and intending to do business in Argentina must obtain a license at Buenos Aires for the Federal District (costing 500 pesos paper or $212.30 U. S. currency) and a separate license must be secured in every province and territory where the trader intends to do business. As this causes serious inconvenience and much expense, foreign houses assign their travelers to some large importing house in Buenos Aires, under whose auspices they work, thereby avoiding payment of the license fees. If the traveler desire to work in the principal cities of the provinces, the importing house at Buenos Aires will assign him to

its branches as agent in such localities. The license charges are as follows:

Provinces of Buenos Aires and Santa Fé: Annual patente of $400 paper ($169.84 U. S. currency).

Province of Santiago del Estero: Annual patente of $300 ($127.38); or if taken out after 30 June $300 ($63.69) to end of year.

Province of Entre Ríos and Tucumán: Annual patente of $600 ($254.76); if taken out after 30 June $300 (127.38) to end of year.

Province of Córdoba: Annual patente of $400 ($169.84); if taken out after 30 June $200 ($84.92) to end of year.

Province of La Rioja: Annual patente of $250 ($106.15).

Province of Jujuy: Annual patente of $200 ($84.92) if representing only one firm; $100 ($42.46) for each additional firm represented.

Province of Corrientes: Annual patente of $600 ($254.76) if selling to business houses only; $1,000 ($424.60) if selling to private individuals also.

Province of Salta: Sliding scale depending on class of merchandise, ranging from $60 ($25.48) for empty sacks and $100 ($42.46) for soap and candles up to $800 ($339.68) for ready-made clothing and $1,000 ($424.60) for textiles or sugar.

Province of San Juan: Fees vary according to season, patente being issued for the following periods: Annual, $400 ($169.84); May to December, $300 ($127.38); September to December, $200 ($84.92).

Province of Mendoza: Patentes are issued for a year at $700 ($297.22), for the period from May to December at $600 ($254.76) and for the period from September to December at $500 ($212.30).

Province of San Luis: Annual patente of $400 ($169.84) for each firm represented.

Province of Catamarca: Annual patente of $300 ($127.38).

National Territories: Annual patente of $50 ($21.23).

*Bolivia.*— There is no Federal law but all Bolivian cities levy a tax on the representatives of foreign houses. The rates vary greatly and licenses are issued only from the date of payment of the tax until the end of the calendar year. The charges range from 200 bolivianos in Tarija, Tupiza and Potosí, 250 in La Paz, Uyuni and Oruro and 300 in Sucre to 400 to 800 in Santa Cruz and 1,000 in Cochabamba. Though not specifically provided for in the Bolivian customs laws, samples of no commercial value may be admitted free if satisfactory bond be furnished for the payment of the regular customs duties in case the samples are not re-exported. Samples may remain in the country for a period of 90 days which may be extended for 30 days longer, after which time, if samples have not been re-exported, the duty will be collected. The principal towns of Bolivia levy taxes for municipal purposes on traders of different classes. In La Paz an annual tax of 1,000 bolivianos is imposed on banks of the first class, and also on the large importing and exporting houses, the smaller houses paying

less. Taxes ranging from 30 to 100 bolivianos are levied upon professional men, such as architects, engineers, lawyers and physicians. In Oruro the amount charged for a trader's license depends upon the business supposed to be done. Every trader, shopkeeper and professional man is supposed to pay something, the taxes ranging from 5 to 1,000 bolivianos. In Sucre an annual municipal tax is levied on all banks, shops, warehouses, offices, hotels, inns, cafés, sporting premises, club premises, etc., the tax varying from year to year in some cases according to the valuation made by the Finance Commission. Banks pay from 400 to 1,000 bolivianos, shops from 5 to 300, and warehouses from 50 to 500.

*Brazil.*—The Federal government does not impose any license tax on foreign commercial travelers but the various state and municipal authorities frequently assess taxes, and license fees must be paid. Most municipalities require a traveler to pay for a hawker's license, if he can be considered within that category but the states do not require such a license. These fees vary so much that consultation with the nearest American consul is necessary before attempting to do business, but the following will give an idea of the charges:

Bahía: State tax of 100 milreis, annual, license being granted on payment of fee. A new license is required if traveler leaves the country and returns.

Maranhão: Annual state tax of 250 milreis and at city of Maranhão annual municipal tax of 100 milreis.

Minas Geraes: Annual state tax of 55 milreis but should a trader's license be taken out traveler is subject to both state and municipal taxes; but if a hawker's license be taken out there is only a municipal tax. A hawker's license in Oliveira costs 500 milreis. At Lavras the tax is 300 milreis if travelers do business with private individuals.

Pará: Annual state tax of 300 milreis, seldom exacted. At Pará a municipal tax of 365 milreis is levied for each visit and if he sell goods the traveler must take out a trader's or hawker's license.

Pernambuco: Annual state tax of 600 milreis levied on pedlars not possessing a shop and selling in the streets. Travelers usually connect with some shopkeeper or business man or one who holds a pedlar's license. At Fortaleza (Ceará) a municipal tax of 53 milreis is levied.

Rio de Janeiro: No state tax on commercial travelers unless they sell the goods they carry, in which event they must take out either a trader's license under which state and municipal taxes of various amounts are charged, or a hawker's license under which there is only a municipal tax.

Rio Grande do Sul: Annual state tax 200 milreis. The municipal taxes vary from 60 milreis at São Borga to 100 at Porto Alegre, 200 each at Pelotas and São Gabriel and 300 at Uruguayana to 800 at Bage. There is no tax at Rio Grande.

São Paulo: No state tax is levied but there are municipal taxes of 500 milreis at Santos and 1,000 milreis at São Paulo.

Some salesmen arrange with local houses for their representation and as the local houses are registered a proper legal standing is obtained so that the payment of claims can be enforced. Under the law of 1916 samples may be entered if bond for their re-exportation be furnished, the maximum period for which such samples may remain in the country being determined by the customs officials. Formal proof of re-exportation is required. The law also provides that such temporary free admission shall be granted only when goods are accompanied by a consular invoice from the country of origin and a memorandum detailing the articles contained in the various packages. While exempt from import duty, samples are subject to the payment of the "expediente" tax of 5 per cent of their official value and other supplementary charges, such as port taxes, storage and handling fees, etc.

*Chile.*—No government, state, provincial, or municipal licenses, warrants or permits are required before a foreign commercial traveler can begin business nor is he required to register or take out any documents before transacting business. No general, local or income tax charges are levied on commercial travelers. Samples without commercial value are admitted free of duty without any restriction as to re-exportation. Salable samples may be imported for six months if security be furnished by a local house to cover the full amount of duty to which the samples would be subject as merchandise, or upon a cash deposit of equal amount by the importer. On presentation of a certificate from the customs house through which the samples are re-exported, the security or cash deposit will be refunded. The re-exportation need not be made through the port of entry.

*Colombia.*—After passing the customs house the commercial traveler is not subjected to any further formalities by the Colombian government. A municipal tax is levied by some cities and a license must be obtained before samples are exhibited. Cartagena and Medellín impose taxes from $10 to $20 for the calendar year and Bogotá fixed a tax of $25 for each firm represented by the traveler but this ordinance is now before the courts and is suspended temporarily. Samples of no commercial value may be imported free of duty and without bond or security, but all other samples must pay the full duty, 75 per cent of which will be refunded upon re-exportation of the samples, within one year.

*Costa Rica.*—In order to do business in the various districts of Costa Rica, commercial travelers are required to obtain permits from the municipal treasurers, but the general government does not require any official documents. The municipal permit is

valid only in the municipal limits and a new permit must be obtained in each city. Regardless of the line of business, such permits cost 2 *colones* (*colon*—$0.4653 U. S. currency) per day in Port Limón, or 8 *colones* per week for the time the traveler may wish to do business in the city limits; in San José a license costs 50 *colones* per six months and in Puntarenas a tax of 15 *colones* is collected for each visit. Samples of no commercial value are dutiable at 0.05 *colon* per kilo gross ($1.05 per 100 pounds) and on all other samples a deposit must be made to cover the full amount of duty. If not re-exported within 90 days the deposit will not be refunded but if re-exported the amount deposited will be refunded, less a charge of 0.05 *colon* per kilo gross ($1.05 per 100 pounds) if number or quantity of samples re-exported be the same as shown at time of making entry. Samples of jewelry or articles made of gold or silver are not entitled to a refund but must pay full duty.

*Cuba.*—No licenses are required nor are charges of any kind imposed upon commercial travelers; neither are they restricted as to duration of visit or methods of transacting business. While all samples of dutiable merchandise must pay full duty upon entry, the tariff laws provide that if a sample lot valued at not more than $500 be re-exported within 90 days from date of entry, 75 per cent of the duty paid will be refunded after identification of the samples. In order to be entitled to the refund of duty, samples must be imported as baggage and part of the salesman's personal equipment. Some samples are admitted duty free under certain conditions—such as samples of felt, wall paper, fabrics, hosiery, and trimmings.

*Ecuador.*—A license to sell goods is required and is valid during the entire stay of the traveler, also permitting him to sell to any person. The license must be obtained from the customs inspector on the wharf before the baggage and samples may enter the country; the charge is 100 *sucres* ($48.665). Many municipalities require permits to sell goods, and such permits usually cost nothing. If the traveler wish to transact business in another part of the country, official permission to do so must be written on the back of the license; otherwise he must purchase another license, at the new port. Samples of fabrics, small articles of no value and articles rendered unsalable by mutilation are admitted duty free, but valuable samples are admitted under bond, subject to re-exportation within 90 days.

*Guatemala.*—No formalities are imposed on commercial travelers in Guatemala, there are no charges of any sort, no Federal

or municipal license fees, no income tax, no special regulations, and no limitation as to clientèle. All samples, save those of no commercial value or those rendered unsalable, must pay the regular customs duties, though in some cases the payment of duties is not required if bond be given for the amount of duty leviable. Samples must be re-exported within 60 days.

*Haiti.*— No license is required before transacting business and the only official paper necessary is a permit from the Department of the Interior prior to traveler's departure from the city for any other part of the country or a passport when leaving for any other country. No charge is made for the former but the passport costs $4 and to obtain it a letter from the consul is necessary. No duty is imposed on samples of no commercial value nor, generally speaking, is a duty imposed on valuable samples imported in moderate quantities and not disposed of by sale.

*Honduras.*— No governmental or local permits are required and, save for the payment of municipal license fees and the temporary entry of their samples, commercial travelers are under no restrictions. Municipal licenses cover one visit only and are limited to 90 days. If a traveler make a trip to another city he is liable to pay another fee on his return. The tax for each visit, irrespective of length of stay or goods handled, is 50 pesos (about $2.50) in Tegucigalpa and San Pedro Sula and 25 pesos in Puerto Cortés. Fees are liable to change annually upon the change of municipal administrations. Salesmen paying the fees may represent several firms without additional charge. Samples of no commercial value weighing less than 25 *libras* (25.25 pounds) are admitted duty free but those exceeding that weight must pay 0.01 peso per half kilo (about $0.50 per 100 pounds, including surtax) gross weight. Valuable samples to be re-exported require a deposit of the amount of duty leviable and if re-exported within 90 days this deposit will be refunded after deducting a charge of 0.05 pesos per half kilo ($2.50 per 100 pounds, including surtax) gross weight.

*Mexico.*— Many of the Mexican states and municipalities impose taxes on commercial travelers, but owing to the prevailing abnormal political conditions, information regarding the license fees now in force is practically valueless.

*Nicaragua.*— No licenses are required from either the national or local authorities and commercial travelers may transact business without formalities or the payment of charges or taxes. Samples of no commercial value are exempt from import duty but other samples must pay the full duty pending re-exporta-

tion or may be allowed temporary free admission upon a bond furnished by a reputable local merchant. The term of temporary admission varies from one to three months according to locality visited.

*Panama.*— No formalities are necessary prior to transacting business, save the payment by commercial travelers of a municipal license in the district in which they expect to trade. The cost of such licenses varies according to municipality. Panama City charging $10 for 30 days and Bocas del Toro $10 and Colón $12.50 for a period of six months. Unsalable samples are exempt from duty, but other samples are admitted under bond or on deposit of an amount sufficient to cover the leviable duty.

*Paraguay.*— A municipal license is the only official license required and may be obtained upon application to the *intendente municipal* (mayor). The licenses cover all lines of goods and include as many firms as the traveler desires to represent, but a separate license is required for each municipality. The licenses are for six months, the semesters beginning 1 January and 1 July, but if taken out in the middle of a semester a discount is allowed for the time already passed. In Pilar the fee is 200 pesos (about $7.62), in Encarnación 300 pesos ($11.58), in Villarica 800 pesos (about $30.88), and in Concepción and Asunción each 1,200 pesos (about $46.32), but in Asunción an additional municipal tax of 360 pesos ($13.90) per annum is levied on all commercial travelers taking out licenses, this tax being assigned to public lighting, street cleaning, etc. In Villarica a license may be taken out for as short a time as one month. There is no income tax on travelers. Samples of no commercial value are exempt from duty, but all other samples must pay full duty which will be refunded on re-exportation within 60 days, less wharfage and lighterage charges ($2.90 per 220 pounds), a statistical charge of one-half per mill of value of goods imported, and a small charge for stamped paper used in clearing goods through the customs house.

*Peru.*— No government license or documents are required of commercial travelers in Peru nor is a national tax imposed for solicitating trade, but in some interior towns a municipal tax is levied. Arequipa imposes a tax of 25 *soles* (about $12) quarterly and Cuzco 50 *soles* (about $24), presumably for each visit. Samples of no commercial value are exempt from import duty and under certain conditions samples of any kind may be imported duty free for three months, which period may be extended another three months. The salesman must deposit a sum equiva-

lent to the leviable duty which will be refunded in full upon re-exportation.

*Salvador.*— No certificates or official papers certified by government officials are required before a commercial traveler may transact business in Salvador, the only official license, warrant or permit being issued by the local municipalities, usually for one year. In San Salvador the municipal tax is 50 pesos (about $25) and the other municipalities levy a tax of from 10 pesos down. Under the customs tariff of 1 Jan. 1916, samples of no commercial value are subject to a duty of $0.03 per kilo ($1.41 per 100 pounds) and all other samples are dutiable at the rates prescribed for similar articles imported in commercial quantities.

*Dominican Republic.*—All industries, offices and professions (occupations) are subject to license duties, the local tax and the professional (business) tax being combined as a basis for calculating license duties. Married persons living together and following one occupation pay for only one license. The licensing law is discussed in Congress every year when preparing the budgets and is fixed anew for the following year. Furthermore the government, with certain restrictions, possesses the sole right to grant monopolies so far as concerns the construction of railroads, cables, telegraph, telephones, canals, hydraulic works, and other similar enterprises. The only document required of commercial travelers, prior to transacting business is an annual license costing $10. Unsalable samples or those having no commercial value are admitted duty free and samples exceeding $2,000 in value imported by bona fide commercial travelers are admitted free under bond, provided they do not remain in the country more than four months.

*Uruguay.*—A license valid for one year must be procured from the Dirección de Impuestos at a cost of 200 pesos ($206.80) in the Department of Montevideo and 100 pesos ($103.40) in the other departments. A general license for the whole country costs 300 pesos ($310.20). If taken out in the second half of the year only one-half of the fee is collected.

*Venezuela.*— No officially certified papers, official licenses, warrants or permits to do business are required in Venezuela and the commercial traveler may begin to solicit business the minute he is permitted to land. Samples of no commercial value, weighing not more than 25 kilos (55 pounds) are admitted duty free but samples weighing more than 25 kilos are dutiable at $3.43 per 100 pounds gross weight. Valuable samples are exempt from duty if bond be furnished to guarantee re-exportation within one year.

# Companies and Partnerships

By Irving E. Rines

UNDER most of the Latin-American commercial codes four kinds of commercial associations are recognized: (1) Unlimited partnerships; (2) Limited partnerships; (3) Limited (joint-stock) companies; and (4) Occasional partnerships or partnerships of participated accounts (sometimes called accidental partnerships). Some countries provide for what are termed partnerships between capital and industry (*habilitaciones*). Broadly speaking the codes define an unlimited partnership as one which operates in the name of all the members whose rights and obligations are common, and in which no member who does not presently belong thereto may be included in the trade name. The domicile of an unlimited partnership is not fixed by that of its members. A limited partnership is one formed by two or more persons, at least one of whom must be a merchant, while the other or others provide the funds or capital to be administered by the former on the condition that those who contribute the funds shall not be liable save to the extent of the funds stated in the contract. Those providing the funds are termed limited members and the others who administer the funds under their exclusive name are merely members. One code defines a limited (joint stock) company as "a juristic person formed by the creation of a common fund supplied by the shareholders who are only liable up to the amount of their shares, administered by removable agents and known by the denomination of its proposed object."

Some provisions relating to partnerships or companies are universally recognized. No partner can be denied the opportunity to examine the books, correspondence and papers relating to the partnership, which provision holds true of shareholders in a limited company. Most countries provide that organizations legally formed in foreign countries but having no registered office, branch or any other kind of partnership representation in the respective countries may practice commercial acts not contrary to the national laws and if they have been recognized as juridical persons or have established a branch or any other kind of social representation shall come under the same commercial provisions as native organizations as regards their registry and the publication of the acts of the society and of the mandates of their

respective representatives. Most countries stipulate that foreign companies or partnerships which found undertakings of a permanent nature must, within a specified time, register the instrument of their foundation and of their articles, while Colombia requires that such organizations, at the principal seat of business in that country, must have a representative with powers of agency and with legal capacity, equal to that of manager, for judicial proceedings which may occur. Most codes require that the constitution of a commercial society or the contract of a commercial partnership, the value of which exceeds a certain amount (in Argentina 1,000 pesos) must be expressed in writing and may be a notarial or private instrument, but in the case of limited companies the instrument must be notarial.

### Unlimited Partnerships

In Venezuela, Chile, Colombia and some other countries, minors and married women, even though divorced or with separation of property, and though possessing all the qualifications necessary to trade, require special authorization to contract an unlimited partnership. The authorization of the minor shall be conferred by the ordinary judge and that of a married woman by her husband. Only the names of the unlimited partners may enter into the composition of the firm name. Anyone allowing the insertion of his name in the commercial style of a partnership is liable to the persons who have contracted therewith. In a contract of ordinary or unlimited partnership, the partners cannot agree among themselves that they shall not be jointly and severally liable or that all the profits shall belong to one partner alone. Unless the articles of partnership expressly designate a partner or partners as having the exclusive right to use the firm name and if they do not exclude any of the partners from this right, all the partners are presumed to possess an equal right to use the firm name; the signing of the firm name by any one of the partners entitled to use it binds all the partners jointly and severally as regards third persons and third persons as regards the partnership. Unless all the partners consent, a majority of the partners cannot transact any business different from that agreed to in the contract of partnership, but in other cases a majority vote decides the partnership affairs. If to one or more of the partners be delegated the power of administration, the others, by this single act, are prohibited from all interference in the social administration. No partner, without the consent of all the partners, may transfer his partnership interest to another person not a partner, nor may he appoint

a substitute to act in his stead in managing the partnership, under pain of nullity of the contract. Any one of its partners has legal personality to represent a commercial association in legal proceedings when all of them enjoy the use of the partnership style or firm name, although, on the other hand, the management of the partnership business may be divided between them.

The partners of an unlimited partnership which has no fixed kind of commerce cannot transact business on their own account, unless expressly permitted by the other partners, and must place the profits of such transactions in the common fund of the partnership or bear all losses individually; but if the kind of commerce be fixed by the contract of partnership, the partners may enter into any commercial transactions that do not belong to the class of business in which the partnership is engaged. A limited partner may be admitted to unlimited partnerships. If one partner bring loss upon the others by fraud, abuse of powers, *culpa* or negligence he shall indemnify the loss without being able to plead that profits made by him in other transactions shall constitute a set off. If an unauthorized partner use the firm name the partnership shall not be responsible for the performance of the obligations signed by the former, except when the obligation has resulted in a profit to the partnership.

Partners as individuals cannot be held liable for partnership debts nor can their private property be taken in execution to pay partnership debts until all the property of the partnership has been levied upon; no partner as an individual can be held liable so long as the insolvency of the partnership does not appear on the record. The personal creditors of a partner cannot arrest the capital contribution which he has introduced while the partnership lasts, but they may apply for the retention of the share of interest which he has therein in order to receive it at the time of the partnership appropriation. Nor do personal creditors rank with partnership creditors if the partnership become bankrupt, but they may sue for the shares which correspond to their debts in the surplus of the bankrupt estate. Partners may not withdraw from the common fund a sum larger than that assigned for their private expenses; they may not apply the common fund to their private business.

Upon expiration of the time limit, partnerships cannot be prolonged merely by the wish of partners but must be renewed by a new contract. A partnership may be judicially dissolved before the time limit on the demand of any of the partners if the partnership capital be lost entirely or impaired to such an extent that

attainment of the partnership objects be impossible; if the legal incapacity of one of the partners be shown, or moral or civil incapacity as decided by a judgment; or if one of the partners misuse the firm name, misappropriate funds or violate or fail to carry out his obligations toward the partnership. The voluntary or judicial dissolution of a partnership must be entered in the registry designated for that purpose and published in the newspapers of the partnership domicile or brought to popular attention by notices fixed in public places.

### Limited Partnerships

In the case of a limited partnership, the registry of the name of the limited partner is not compulsory. In Chile the words "and company" added to the name of a managing partner do not imply the inclusion of the name of the limited partner in the firm name or impose upon him liabilities different from those which he has in that character. A limited partner who forms an establishment of the same nature as the partnership establishment or participates as an unlimited or limited partner in one formed by another person, forfeits the rights of examining the partnership books unless the interests of that establishment be not opposed to those of the partnership. The partner or partners who manage or direct a limited partnership are jointly and severally liable for the results of all transactions, while limited partners are only liable for the funds which they have provided or are bound to provide as capital; but if the latter include their names in the partnership name they become jointly and severally liable as if they were managers. No limited partner, personally, may perform any act of management, intervention or administration which may produce partnership obligations or rights, nor even as attorney of the managing partners; nor may a limited partner, as such, be employed in the business of the partnership, nor give orders to managing partners nor prevent their doing what they may perform by themselves alone. Any limited partner performing acts of management is jointly and severally liable to creditors and in case of bankruptcy may be criminally liable. Advice, opinion, examination, inspection, etc., are not considered acts of management.

### Limited (Joint-Stock) Companies

Limited companies have no trade name, nor can they be formed or organized until they have a certain number of members (in Brazil 7; Argentina 10); until a certain percentage or all

of the capital stock is subscribed (in Argentina at least 20 per cent of the first issue); until a specified portion of the subscribed capital is paid for and deposited in a bank (10 per cent in Argentina and Brazil; 25 per cent in Chile; some countries not stated); and until they have been properly authorized by the designated branch of the government. After receiving such authorization, the company may be definitely formed by executing the proper instrument, by registering it at the proper tribunal and by publishing it for 15 days (indefinite in some countries) together with the company's constitution, authorization and other constitutive acts. The constitution of a company must be inscribed on the register of the commercial tribunal before the company may be considered as a judicial person or as legally existing. The shares of a limited company must be of equal value, and a stock register and transfer book must be kept at the head offices of the company; preferred stock only may bear a fixed rate of interest. The terms of directors (not necessarily shareholders in Brazil) are certain and fixed and in some countries may not exceed three years (six in Brazil and Dominican Republic) nor are directors re-eligible unless so stated in the constitution (in Brazil directors are re-eligible). In most countries directors of a limited company not recognized as a judicial person or not inscribed in the public register are liable jointly, severally and without limit for the debts of a company but are not personally liable, if the company shall have been duly constituted, save for negligence, *culpa* or fraud. Directors may not do business or contract on their own account, directly or otherwise, with the company which they direct. In Chile shareholders who directly or indirectly participate in the administration of a company which has not fulfilled its obligations as to authorization, dissolution, or other acts the omission of which would produce nullity, shall be considered unlimited partners who are jointly and severally liable for the obligations contracted in favor of third persons. In Venezuela, when forming a company, the promoters cannot reserve to themselves any individual reward, brokerage or advantage taken from the joint capital or represented in shares or beneficial obligations, and any agreement to the contrary is void. But they may reserve to themselves a part of the profits during a specified time. In most countries inspectors are also appointed by the shareholders to scrutinize the management of the company and in general to see that the directors faithfully comply with the laws of the country as well as the constitution and by-laws of the company. The manager of a company is liable for losses sustained thereby as a result of his fault or omis-

sion. In Bolivia the members of limited companies are forbidden to use the common property and the trade name in private business on pain of restoring the sum taken and a quarter in addition; of the loss of profit for the advantage of the association; and of compensating for all the damage.

Shareholders must hold at least one ordinary general meeting each year and such other extraordinary general meetings as may properly be summoned by the directors or inspectors or as may be requisitioned by shareholders representing one-fifth part of the capital. Unless otherwise provided in the constitution a vote of three-quarters of the capital stock is necessary before a company can be merged with another or its capital reduced, restored or increased (some only require two-thirds). Directors cannot be proxies. In Argentina at least 2 per cent of the annual net profits must be set aside as a reserve fund until it reaches a minimum of 10 per cent of the capital (in Dominican Republic and Venezuela 5 per cent must be set aside but in some countries the amount is not stipulated). Distribution of dividends before completing the reserve fund is forbidden. Limited companies may issue scrip or bonds, nominal or to bearer, equal to the paid up capital, but such companies must publish monthly in a newspaper a balance sheet of their assets and liabilities; all limited companies must publish annually or semi-annually a general balance sheet of their condition and a list of shareholders. The 1917 constitution of Mexico provides that commercial stock companies may not acquire, hold or administer rural stock companies. Companies of this nature organized to develop any manufacturing, mining, petroleum or other industry (save agriculture) may acquire, hold or administer lands only in an area absolutely necessary for their establishments or adequate to serve the purposes indicated, to be determined by the national or state executive.

Limited companies can only be dissolved by the expiration of their time limit, or by completion or proof of inability to complete the undertakings for which they were created; by insolvency; by the death, lunacy, or bankruptcy of any or all of their members; or by liquidation. In most countries, if the capital become impaired to the extent of 50 per cent (Venezuela $33\frac{1}{3}$) or to the minimum fixed by the constitution as a ground for dissolution, the directors or administrators must inform the commercial tribunal and also publish the fact; and if the impairment be 75 per cent (Venezuela $66\frac{2}{3}$), the directors shall be liable jointly and severally for obligations contracted after the existence of the deficit became known to them or should have come to their notice. In

Brazil the company, the creditors of an insolvent company and the shareholders prejudiced have a right of action against directors for losses resulting from the distribution of dividends not due. In Peru funds belonging to foreigners invested in limited companies shall not be subject to reprisals in case of war.

### Partnerships between Capital and Industry

These consist on the one hand of one or more persons who furnish funds for general business or a particular mercantile transaction, and on the other hand of one or more persons who enter into the partnership with their industry only. The capitalist partners are liable jointly and severally for the partnership debts and credits and their obligation extends beyond the capital brought into the partnership. They cannot convert themselves into limited partners. The partnership papers must specify the obligations of and profits to be apportioned to the industrial partner or partners, in default of which specification the industrial partner's share of profits shall equal that of the partner who furnished the least capital. The industrial partner may not contract in the name of the partnership nor is he liable with his own property to the creditors of the partnership, but if he furnish both capital and industry the partnership shall be deemed unlimited and the industrial partner, whatever be the stipulation, shall be jointly and severally liable. The capitalist partner and also the partnership creditors may institute against an industrial partner whatever action the law permits against an unfaithful or culpably negligent manager or agent.

### Accidental Partnerships or Associations on Joint Account

These are casual combinations of two or more persons acting in relation to one or more certain and transitory commercial transactions, some or all of which persons work in their individual names only, without a partnership name or fixed address, but with a fixed proportion of interest in the profits accruing from such transactions. If such partners contract with third persons in common without stating the participation which each one takes, they are all jointly and severally liable though their shares in the partnership may be unequal. As the duration of this kind of association is limited to a short time, it is not subject to the formalities of the others.

# List of Financial and Commercial Companies

## BANKS AND BANKERS

ANGLO-SOUTH AMERICAN BANK, LTD., with which is incorporated the London Bank of Mexico and South America, Ltd., Head office, Old Broad Street, London, E. C. Authorized capital,—Subscribed, $22,500,000; Unissued, $2,500,000; Total, $25,000,000. Capital issued and paid up, $11,250,000; Reserve fund, $7,000,000; uncalled liability of shareholders, $11,250,000; total responsibility for creditors, $29,500,000.

*Branches:* In Chile — Antofagasta, Chillan, Concepción, Copiapó, Coquimbo, Iquique, la Serena, Punta Arenas, Santiago, Talcahuano, Valparaiso; in Argentina — Bahía Blanca, Buenos Aires, Mendoza, Rio Gallegos, Rosario de Santa Fé, San Rafael; in Uruguay — Montevideo; New York — 60 Wall Street; Paris — 19 Boulevard de Capucines and 23 Rue de la Paix; Germany — Hamburg.

*Correspondents:* Mexico — Branches of the Banco de Londres y Mexico.
Peru — Branches of the Banco de Peru y Londres.
Argentina — Branches of the Banco de la Provincia de Buenos Aires.
Cuba — Banco de la Habana.
El Salvador — Banco Agricola Comercial.
Bolivia — Banco de la Nacion Boliviana.

BANCO ALEMAN TRANSATLANTICO. See Deutsche Ueberseeische Bank.

BANCO GERMÁNICO DE LA AMERICA DEL SUD. See Deutsch-Sudamerikanische Bank.

BANCO SUIZO SUDAMERICANO. See Schweizerisch Sudamerikanische Bank under Argentina.

BANQUE FRANÇAISE ET ITALIENNE POUR L'AMÉRIQUE DU SUD. Head office, 41 Avenue de l'Opéra, Paris. Capital fully paid up, 25,000,000 francs ($5,000,000); reserve fund, 11,233,223 francs ($2,246,644). Tel. addr. for Paris and Brazil, "Sudameris"; for Buenos Aires branch, "Francital."

*Branches:* In Argentina — Buenos Aires; in Brazil — Botucatu, Curityba, Espirito Santo do Pinhal, Jahu, Mococa, Rio de Janeiro, Ponta Grossa, Ribeirao, Preto, São Paulo, São Carlos, Santos.

COMMERCIAL BANK OF SPANISH AMERICA, LTD. (formerly Cortes Commercial and Banking Co. Ltd.) Est. 1904. Head office, 9 Bishopsgate, London, E. C. Tel. addr. "Mandatum, London." 1914. Capital subscribed, $2,500,000; Paid up, $1,307,417.

*Branches:* In Colombia — Bogotá, Medellin; in Ecuador — Guayaquil; in Nicaragua — Managua; in Peru — Iquitos; in Salvador — San Salvador; in Venezuela — Caracas.

BRITISH BANK OF SOUTH AMERICA. Est. 1863. Head office, 4 Moorgate St., London, E. C. Tel. addr.— "Carrington, London." 1914. Subscribed capital, $10,000,000; Capital paid up, $5,000,000; reserve fund, $5,000,000.

*Branches:* In Argentina — Buenos Aires (6); in Brazil — Bahía, Rio de Janeiro, São Paulo, Montevideo, Rosario de Santa Fé; in Uruguay — Montevideo.

DEUTSCH-SUEDAMERIKANISCHE BANK AKTIEN-GESELLSCHAFT (Banco Germánico de la America del Sud). Est. 1906. Head office, Berlin. 1913. Capital paid up, marks, 20,000,000 ($5,000,000); Reserve fund, marks, 800,000 ($200,000).

*Branches:* Buenos Aires, Valparaiso, Santiago (Chile), Mexico City, Torréon (Mexico), Rio de Janeiro.

Deutsche Ueberseeische Bank. Head office, Berlin. Capital paid up (1913), 30,000,000 marks ($7,500,000).

*Branches:* Under the titles of Banco Alemán Transatlantico and in Brazil Banco Allemão Transatlantico: in Argentina — Bahía Blanca, Buenos Aires, Córdoba, Mendoza, Rosario, Tucumán; in Bolivia — La Paz, Oruro; in Brazil — Rio de Janeiro, São Paulo, Santos, Petropolis; in Chile — Antofagasta, Arica, Concepción, Iquique, Osorno, Santiago, Temuco, Valdivia, Valparaiso; in Peru — Arequipa, Callao, Lima, Trujillo; in Uruguay — Montevideo.

London and River Plate Bank, Ltd. Est. 1862. Subs. capital (1913), $15,000,000. Paid up, $9,000,000. Reserve fund, $10,000,000.

*Branches:* In Argentina — Buenos Aires (5); Rosario, Mendoza, Córdoba, Tucumán, Paraná, Concordia, Bahía Blanca; in Brazil — Rio de Janeiro, Santos, São Paulo, Bahía, Pernambuco, Pará, Victoria, Curityba, Manaos; in Chile — Valparaiso; in Uruguay — Montevideo, Paysandú, Salto.

London and Brazilian Bank, Ltd. Est. 1862. Subs. capital (1915) $12,500,000

*Branches:* In Argentina — Buenos Aires, Rosario; in Brazil — Bahia, Ceará, Curityba, Manaos, Pará, Pernambuco, Porto Alegre, Rio de Janeiro, Rio Grande do Sul, Santos, São Paulo; in Uruguay — Montevideo.

Banque Italo-Belge. Head office, Antwerp. Subs. capital, 20,000,000 francs ($4,000,000); paid up capital, 10,000,000 francs ($2,000,000).

*Branches:* In Argentina — Buenos Aires; in Brazil — São Paulo, Rio de Janeiro, Santos, Campinas; in Uruguay — Montevideo.

National City Bank of New York. Head office, New York. Capital, $25,000,000, surplus fund and undivided profits, $35,450,000.

*Branches:* Argentina — Buenos Aires; in Brazil — Rio de Janeiro, Santos; in Uruguay — Montevideo; in Cuba — Havana.

Royal Bank of Canada. Head office, Montreal, Canada. Capital, $11,560,000.

*Branches in Latin America:* In Cuba — Antilla, Bayamo, Caibarien, Camagüey, Cardenas, Ciego de Civila, Cienfuegos, Guantánamo, Havana (6), Manzanillo, Matanzas, Nuevitas, Pinar del Rio, Puerto Padre, Sagua la Grande, Sancti Spiritus, Santa Clara, Santiago de Cuba; in the Dominican Republic — Santo Domingo, San Pedro de Macoris; in Porto Rico — Mayaguez, Ponce, San Juan.

## ARGENTINA

Banco de Italia y Rio de la Plata. Head office, Buenos Aires. Tel. addr., "Bankitalia, Buenos Aires." Capital paid up, $10,000,000.

*Branches:* Bahía Blanca, Concordia, Gualeguay, Gualeguaychu, La Paz, La Plata, Parana, Resistencia (Chaco), Rosario (Santa Fé); Uruguay; Victoria. Agencies: Ensenada (La Plata); Bahia Blanca; Puerto Ingo.

Banco de la Nacion Argentina. Head office, Buenos Aires. Tel. addr., "Banacnación." Capital (1913), $128,000,000 paper, ($54,348,800). Res. fund, gold, $14,565,407. Over 140 branches.

Banco de la Provincia de Buenos Aires. Head office, La Plata. Central office, Buenos Aires. Tel. addr., "Provinbank, Buenos Aires." Capital, paid up (1913), $64,446,300. Forty branches.

Banco Español del Rio de la Plata. Est. 1886. Head office, Buenos Aires. Subs. and paid up capital, $43,650,790. Sixty-nine branches.

*Branches:* Sixty-four in Argentina, Brazil, Uruguay, Europe. Tel. addr. for all offices, "Spainbank."

Banco Francés del Río de la Plata. Est. 1886. Head office, Buenos Aires. Tel. addr., "Banco France." Capital paid up, $28,000,000. Res. fund, $7,000,000. Thirteen branches.

Banco Holandés de la América del Sud. Buenos Aires. See Hollandsche Bank.

Banco Popular Argentino. Est. 1887. Buenos Aires. Tel. addr., "Popular." Capital paid up, $10,498,971. Res. fund, $5,259,760.

Bunge (Ernesto A.) & J. Born. Bankers, Buenos Aires.

Hollandsche Bank Voor Zuid-America (Banco Holandes de la America del Sud). Head office, Amsterdam. Branch, Buenos Aires. Tel. addr., "Banholanda." Capital, florins, 4,000,000 ($1,600,000).

Nuevo Banco Italiano. Est. 1887. Buenos Aires.

Schweizerisch-Sudamerikanische Bank. Est. 1912. Head office, Zurich. Tel. addr., "Bancosuizo." Auth. capital, $4,000,000. Capital, paid up, $2,000,000. Branch, Buenos Aires.

Supervielle & Co. Bankers. Buenos Aires.

Ernesto Tornquist & Co., Ltd. Bankers. Buenos Aires.

## BOLIVIA

Banco de la Nacion Boliviana. La Paz. Tel. addr., "Naviana." Capital, paid up, 18,962,500 bolivianos (about $7,205,750). Branches: Cochabamba, Oruro, Potosí, Riberalta, Santa Cruz, Sucré, Tarija, Uyuni.

Banco Francisco Argandona. Est. 1863. Head office, Sucré. Capital, 4,000,000 bolivianos ($1,520,000). Four branches.

Banco Mercantil. Est. 1905. Head office, Oruro. Tel. addr., "Bercant, Oruro." Capital, paid up, 10,000,000 bolivianos ($3,800,000). Res. fund, 1,415,000 bolivianos ($537,700). Six branches.

Banco Nacional de Bolivia. Est. 1872. Head office, Sucré. Tel. addr., "Baneviola, Sucre." Capital, paid up, 8,000,000 bolivianos ($3,040,000). Res. fund, 2,285,514 bolivianos ($868,495). Seven branches.

## BRAZIL

Banco Commercial do Estado de São Paulo. São Paulo. Est. 1912. Tel. addr., "Commercial." Subscribed capital, reis, 12,000,000$000; paid up, reis, 7,200,000$000. Res. fund, reis, 500,000$000. Agency: Santos. Foreign correspondents: London, Spain, Paris, Italy, Portugal, New York: Agency of Canadian Bank of Commerce. Argentina: Banco de la Nación Argentina. Uruguay: Banco de la República Oriental del Uruguay. Asia: Hongkong and Shanghai Banking Corp.

Banco Commercial do Maranhão. Maranhão. Capital, paid up, milreis, 1,351,300.

Banco Commercial do Pará. Pará, Brazil. Tel. addr., "Bancomercal, Pará." Capital, milreis, 3,010,250. Res. fund, milreis, 1,609,157.

Banco Commercial Franco-Brazileiro. Porto Alegre, Brazil.

Banco da Provincia do Rio Grande do Sul. Est. 1858. Head office, Porto Alegre. Tel. addr., "Provincia." Capital, paid up, milreis, 5,000,000$000. Res. fund, milreis, 8,418,707$610. Branches: Alegrete, Bagé, Cachoeira, Caxias, Dom Pedrito, Jaguarao, Lageado, Livramento, Passo Fundo, Pelótas, Rio de Janeiro, Rio Grande, São Gabriel, Santa Maria Taquara, Uruguayana.

Banco do Ceará. Fortaleza (or Ceará). Est. 1893. Tel. addr., "Bancoceará, Fortaleza." Capital, paid up, milreis, 600,000. Res. fund, milreis, 145,000.

Banco do Brasil (formerly Banco da República do Brasil). Río de Janeiro. Capital, paid up, milreis, 45,000,000. Res. fund, milreis, 4,407,174. Nine branches. Tel. addr., "Satellite, Rio de Janeiro."

Banco do Commercio. Río de Janeiro. Capital, milreis, 7,000,000. Res. fund, milreis, 4,497,242.

Banco do Commercio de Porto Alegre. Est. 1895. Porto Alegre. Sub. capital, milreis, 5,000,000. Nine branches.

Banco do Pará. Pará, Brazil. Est. 1883. Tel. addr., "Banking, Pará." Capital, milreis, 4,326,300.

Banco do Recife. Pernambuco, Brazil. Est. 1900. Tel. addr., "Recifbanco." Sub. capital, milreis, 2,000,000.

Banque Française pour le Brésil. Est. 1911. Paris: 1 Boulevard des Capucines. Brazil: São Paulo; agency at Santos. Capital subscribed and fully called, 15,000,000 francs ($3,000,000).

Banco Nacional Ultramarino. Head office, Lisbon, Portugal. Paid-up capital, 7,200,000 escudos ($7,565,000). Branch, Rio de Janeiro.

Brasilianische Bank für Deutschland. Hamburg. Capital, paid up, 15,000,000 marks ($3,750,000). Res. fund, 6,200,000 marks ($1,550,000). Tel. addr., "Nordbank." Branches: Rio de Janeiro, São Paulo, Santos, Bahía, Porto Alegre.

A. F. de Souza & Cia., Bankers. Pará, Brazil. Tel. addr., "Mapuá."

Luchsinger & Cie. Rio Grande do Sul.

Mostardeiro, Irmaos & Co. Porto Alegre.

## CHILE

Banco de A. Edwards & Co. Est. 1852. Tel. addr., "Saveloy, Valparaiso." Capital, subs., $25,000,000; paid up, $10,000,000. Branch, Santiago (Chile).

Banco de Chile. Head offices, Santiago and Valparaiso. Tel. addr., "Bancochile." Capital, subs., $80,000,000; paid up, $40,000,000. Res. fund, $22,000,000. Over 40 branches and agencies in Chile.

Banco de Tacna. Est. 1872. Tel. addr., "Bantac, Tacna." Capital, paid up, $1,000,000. Eight branches. Agents in London and Paris.

Banco Español de Chile. Valparaiso. Tel. addr., "Espanital." Capital, $30,000,000. Res. fund, $12,000,000. Bank authorized by decree of the Chilean government dated 24 April 1900. Branches in Chile, 38.

Banco Italiano. Valparaiso. Tel. addr., "Italobanco, Valparaiso." Capital, paid up, $10,000,000. Res. fund, $1,213,430. Eight branches in Chile.

Banco Mercantil. Est. 1898. Head office, Tacna. Tel. addr., "Merca, Tacna." Capital, paid up, $500,000. Res. fund, $387,339.

Banco Nacional. Valparaiso. Tel. addr., "Naciobanco." Capital, subscribed, $40,000,000; paid up, $16,000,000. Res. fund, $6,636,696. Eight branches.

Bank für Chile und Deutschland. Head office, Hamburg. Capital, 10,000,000 marks ($2,500,000); paid up, 5,000,000 marks. Res. fund, 389,027 marks ($97,259). Branches: Banco de Chile y Alemania in Antofagasta, Concepción, Santiago, Temuco, Valdivia, Valparaiso, Victoria. Tel. addr., for Hamburg, "Nordbank"; for Branches, "Nordisbank."

Bank of Punta Arenas. Est. 1900. Punta Arenas, Straits of Magellan. Tel. addr., "Banco." Capital, paid up, $2,200,000. Res. fund, $347,277. Branches: Castro (Chile); Santa Cruz (Argentina).

Caja Hipotecaria (Land Mortgage Bank). Under State supervision. Est. 1855. Head office, Santiago.

Société Commerciale Française Au Chile. Est. 1892. Head office, 5 Rue d'Antin, Paris. Tel. addr., "Lhostemi, Valparaiso." Capital, subscribed, 5,000,000 francs ($1,000,000); paid up, 1,250,000 francs ($250,000). Branch, Valparaiso.

(The dollar $ sign represents the Chilean gold peso; francs and marks are converted into U. S. currency.)

## COLOMBIA

Banco Central. Bogotá. Tel. addr., "Gerencia, Bogotá." Capital, paid up, $2,300,000. Res. fund, $1,353,985.

Banco Commercial de Barranquilla. Est. 1904. Tel. addr., "Commercial, Barranquilla."

Banco de Bogota. Tel. addr., "Banebota." Capital, $250,000 gold.

Banco de Colombia. Bogotá. Tel. addr., "Bancolomb." Capital, $780,000.

Banco Hipotecario de Colombia. Bogotá. Tel. addr., "Hispámer." Capital, paid up, $500,000. Res. fund, $27,600.

V. Dugand & Hijo. Barranquilla, Colombia.

## COSTA RICA

Banco Anglo-Costarricense. San José. Est. 1863, 1890. Tel. addr., "Anglo, San José, Costa Rica." Capital, paid up, 1,200,000 colones. Res. fund, 1,016,000 colones.

Banco Comercial de Costa Rica. San Posé. Bankrupt, February 1915.

Banco de Costa Rica. San José. Est. 1887. Tel. addr., "Bancosta." Capital, 2,000,000 colones.

Banco Internacional de Costa Rica. Est. 1914. Authorized issue, up to 4,000,000 colones (guaranteed by government).

Sasso & Pirie Successors. Bankers. San José. Tel. addr., "Sasso, Costa Rica."

## CUBA

J. Balcells & Co. Havana. Est. 1868.

Banco de la Habana. Havana. (Business being transferred to the National City Bank of New York).

Banco Español de la Isla de Cuba. Havana. Capital, $8,000,000. Forty branches.

Banco Nacional de Cuba. Havana. Est. 1901. Tel. addr., "Banconac." Capital, $6,860,455; surplus, $1,500,000. Branches, 35. New York agency, 1 Wall St.

Banco Territorial de Cuba. Havana. Capital, $5,000,000.

National Bank of Cuba. See Banco Nacional, above.

Royal Bank of Canada. Capital and surplus, $25,000,000.

The Trust Company of Cuba. Havana. Capital, $500,000; surplus, $325,000.

H. Upmann & Co. Havana.

## DOMINICAN REPUBLIC

National Bank of Dominica. Est. 1912. Capital, paid up, $500,000.

International Banking Corporation. Santo Domingo and Puerto Plata.

Royal Bank of Canada. Branches at Santo Domingo and San Pedro de Macoris.

## ECUADOR

Banco Comercial y Agricola. Guayaquil. Est. 1894. Tel. addr., "Agricola, Guayaquil." Capital, 5,000,000 sucrés.

Banco del Ecuador. Guayaquil. Est. 1868. Capital, auth. and issued, 3,000,000 sucrés.

Banco del Pinchincha. Head office, Quito. Auth. and issued capital, 1,000,000 sucrés.

(The above three banks are authorized to issue notes for circulation.)

Banco de Crédito Hipotecario. Guayaquil. Est. 1871. Capital, 1,000,000 sucrés.

Banco Territorial. Guayaquil. Est. 1886. Capital, 700,000 sucrés.

(The last two are mortgage loan banks.)

## GUATEMALA

Banco Agricola Hipotecario. Guatemala. Est. 1894. Capital, subs. and paid up, $5,000,000. Res. fund, $1,259,772. Notes in circulation, $4,900,000. Deposits, $3,896,595. Correspondents, $1,388,888.

Banco Americano de Guatemala. Est. 1895. Tel. addr., "Americano, Guatemala." Capital, paid up, $4,000,000. Res. fund, $3,650,000.

Banco de Guatemala. Est. 1895. Tel. addr., "Guatelbanco, Guatemala." Capital, subs., $2,500,000; paid up, $2,500,000. Res. fund, $7,652,576. Agencies: Antigua, Champerico, Coatepeque, Escuintla, Jutiapa, Livingston, Mazatenango, Ocos, Pochuta, Quezaltenango, Retalhuleu, Salamá, San José, Tumbador, Zacapa.

Banco de Occidente. Est. 1881. Tel. addr., "Occidental, Quezaltenango." Capital, paid up, $1,650,000. Res. fund, $15,750,000. Branch at Guatemala.

Banco Internacional de Guatemala. Est. 1877. Tel. addr., "Banquero, Guatemala." Capital, paid up, $2,000,000. Res. fund, $2,253,303. Four agencies.

(The dollar sign $ in each case represents the Guatemalan dollar or peso.)

## HAITI

Banque National de la Republique d'Haiti. Est. 1910. Capital, 10,000,000 francs ($2,000,000). Offices, Paris and Port-au-Prince.

## HONDURAS

Banco de Honduras. Tegucigalpa. Est. 1889. Tel. addr., "Banco, Tegucigalpa." Capital, 417,000 pesos. Branches: Amapala, Comayagua, La Ceiba, San Pedro Sula, Truxillo, Santa Rosa.

Banco de Comercio. Tegucigalpa. Est. 1913.

Banco Atlantida. Est. 1913.

## JAMAICA

Bank of Nova Scotia. Head office, Toronto. Capital, auth., $10,000,000; paid up, $6,500,000. Res. fund, $12,000,000. Branches at Havana and Porto Rico (San Juan).

Colonial Bank.

## MARTINIQUE

Banque de la Martinique. Fort-de-France. Est. 1851. Tel. addr., "Banque, Fort-de-France." Capital, paid up, 3,000,000 francs ($600,000). Res. fund, 1,530,000 francs ($306,000).

## MEXICO

Banco Central Mexicano. Tel. addr., "Bancentral, Mexico." State bank; est. 1899. Capital, $10,000,000.

Banco de Coahuila. State bank; est. 1897. Capital, $1,600,000.

Banco de Londres y Mexico. Head office, Mexico. Tel. addr., "Loudbank, Mexico." Capital, paid up, $21,500,000. Res. fund, $8,366,000 (1914). Branches, 12 in Mexico.

Banco de Sonora. Head office, Hermosillo, Mexico. Capital, paid up, $1,500,000. Res. fund, $1,280,000 (1912). Six branches in Mexico. (These figures are the latest obtainable).

Banco Español Refaccionario. Puebla. Capital, $2,000,000.

Banco de Queretaro. Est. 1903. Capital, $1,000,000; surplus reserve, $80,000,000.

Banco de Tamaulipas. Tampico. State bank; est. 1902. Capital, $2,500,000.

Banco del Estado de Mexico. Toluca. State bank; est. 1897. Capital, $3,000,000.

Banco de la Laguna. Torreon, Coahuila. Capital, $4,200,000.

Banco de Zacatecas. Mexico. State bank; est. 1891. Capital, $1,000,000; paid up, 1913, $600,000. Eight branches and agencies.

Banco Hipotecario de Credito Territorial Mexicano. State bank; est. 1897. Capital, $5,000,000.

Banco Internacional é Hipotecario. Mexico City. Est. 1889. Tel. addr., "Intercario, Mexico." Capital, subs., $5,000,000; paid up, $3,500,000. Res. fund (1914), $1,200,000.

Banco Mercantil de Monterrey. Nuevo Leon. Est. 1899. Capital, $2,500,000. Res. fund, $363,000.

Banco Mercantil de Vera Cruz. State bank; est. 1898. Capital, $3,000,000.

Banco Mexicano de Comercio é Industria. State bank; est. 1906. Capital, $10,000,000. Correspondents: National City Bank and National Bank of Commerce, New York City.

Banco Minero de Chihuahua. Head office, Chihuahua City. Est. 1883. Capital, paid up (1912), $5,000,000. Tel. addr., "Bankminero, Chihuahua." Five branches and agencies.

Banco National de Mexico. See *National Bank of Mexico.*

Banco Occidental de Mexico. Mazatlan. Est. 1897. Tel. addr., "Amistad." Capital, paid up, $1,500,000. Res. fund (1914), $475,936. Two branches, two agencies.

Banco Oriental de Mexico. Est. 1900. Head office, Puebla, Mexico. Tel. addr., "Bancorient." Capital, paid up, $12,000,000. Res. fund, $1,746,757. Bank-notes in circulation (1914), $28,100,648. Branches, 17.

Banco Peninsular Mexicano. Mérida, Mexico. Tel. addr., "Peninsular, Mérida." Capital, paid up, $10,725,000. Res. fund, 1915, $1,450,199.

Bank of Montreal. Mexico City. Capital, $32,000,000. Correspondents, National City Bank, New York City.

G. Brockmann & Co. Mexico City.

Canadian Bank of Commerce. Capital and surplus, $28,500,000. Branch in Mexico City.

Compania Bancaria de Fomento y Bienes Raices. Mexico City. Capital, $10,600,000. Correspondent, National Bank of Commerce, New York.

Compania Bancaria de Hipotecas y Prestamos. Mexico City. Capital, $1,200,000.

Compania Bancaria de Paris y Mexico. Mexico City. Est. 1909. Capital, $10,000,000.

Mercantile Banking Co., Ltd. Mexico City. Est. 1905. Capital, $500,000.

Mexico City Banking Co. Est. 1903. Capital, $800,000.

Mortgage and Loan Banking Co. Mexico City. Est. 1909. Capital, $1,449,765.

National Bank of Mexico. Head office, Mexico City. Capital, subs. and paid up, $32,000,000. Res. fund (1914), $34,275,000. Branches, 38; agencies, 20.

F. Stallforth y Hermano. Parral, Mexico. Est. 1862. Tel. addr., "Stallforth, Parral."

Gustavo Struck & Co., Successors. Hamburg, Mexico City, Vera Cruz.

## NICARAGUA

Anglo-Central American Commercial Bank, Ltd. Est. 1914. Head office, Pinners Hall, Austin Friars, London, E. C. Branches: Paris, Managua. Capital, subs. and paid up, $276,500.

Commercial Bank of Spanish America. Managua.

Banco Comercial de Nicaragua. Managua.

London Bank of Central America, Ltd. Est. 1888 in Managua under the name of Banco de Nicaragua. Reg. in London, 1893. Capital, paid up, $137,850.

National Bank of Nicaragua. Managua. Est. 1912. Capital, over $100,000.

## PANAMA

Bank of the Canal Zone. Colon. State bank. Tel. addr., "Botez."

"Bank of Panama" of Ramon Arias-Feraud. (Private). Est. 1875. Capital, $250,000.

Continental Banking & Tr. Co. State bank. Capital, $1,000,000.

Ehrman & Co. Panama.

International Banking Corporation. Panama and Colon. (Branch of New York City.) Capital, $3,250,000.

Panama Banking Co. Panama and Colon. New York office, 17 Battery Place.

## PARAGUAY

Banco de la Republica. Asunción. Est. 1908. Capital, auth., 20,000,000 dollars gold; issued, 6,000,000 dollars gold.

Banco Mercantil del Paraguay. Head office, Asunción. Tel. addr., "Mercantil." Capital auth. and paid up, 20,000,000 dollars paper. Res. fund, 17,000,000 paper. Branches, five.

Banco Agricola. Capital, 14,531,238 dollars paper. (Capital increased in 1915.)

Banco de Credito Commercial.

## PERU

BANCO DEL PERU Y LONDRES. Lima. Est. 1897. Tel. addr., "Lao, Lima." Capital, paid up, libras 500,000 ($2,500,000). Res. fund, libras 300,000 ($1,500,000). Branches: Arequipa, Callao, Cerro de Pasco, Chiclago, Cuzco, Chincha Alta, Huancayo, Huacho, Huaras, Ica, Iquitos, Mollendo, Pacasmayo, Piura, Trujillo.

BANCO INTERNACIONAL DEL PERU. Lima. Tel. addr., "Interbank, Lima." Capital, $500,000. Res. fund, $125,000.

BANCO ITALIANO. Tel. addr., "Bitaliano, Lima." Capital, paid up, $1,000,000. Res. fund, $530,675. Branches: Arequipa, Callao, Chincha Alta, Mollendo.

BANCO POPULAR DEL PERU. Lima. Est. 1899. Tel. addr., "Popular, Lima." Capital, paid up, $750,000. Res. fund, $312,000.

BANCO ALEMAN TRANSATLANTICO. See DEUTSCHE UEBERSEEISCHE BANK.

CAJA DE DEPOSITOS Y CONSIGNACIONES.

CAJA DE AHORROS DE LA BENEFICIENCIA DE LIMA. (Savings bank, with over $1,000,000 deposits).

CREDIT FONCIER PERUVIEN. Paris and Lima. Capital, auth., 7,500,000 francs ($1,500,000); issued, 5,000,000 francs ($1,000,000). Agencies: Banco del Peru y Londres.

## PORTO RICO

AMERICAN COLONIAL BANK OF PORTO RICO. Capital and surplus, $915,000. Branches: Arecibo, Mayaguez, San Juan.

BANCO COMMERCIAL DE PUERTO RICO. Est. 1899. Capital, $1,000,000.

BANCO TERRITORIAL Y AGRICOLA DE PUERTO RICO. Est. 1894. Head office, San Juan. Tel. addr., "Terragrico, San Juan, P. R." Capital, paid up, $580,737. Surplus, $5,000.

BANK OF NOVA SCOTIA. Head office, Halifax. Capital, $6,000,000. Branches in Porto Rico and the British West Indies.

## SALVADOR

BANCO AGRICOLA-COMERCIAL. San Salvador. Capital, paid up, 922,500 silver pesos.

BANCO MICHAELENSE. San Miguel.

BANCO OCCIDENTAL. Est. 1890. Head office, San Salvador. Tel. addr., "Occidental." Capital, subs. and paid up, 2,000,000 silver pesos. Res. fund, 679,832 silver pesos. Two branches; 9 agencies.

BANCO SALVADOREÑO. Tel. addr., "Particular, Sansalvador." Capital, paid up, 3,000,000 silver pesos. Res. fund, 331,119 silver pesos. Two branches; 7 agencies.

## URUGUAY

BANCO COMERCIAL. Montevideo. Est. 1857. Tel. addr., "Celtica, Montevideo." Capital, paid up, $2,000,000. Res. fund, $700,000.

BANCO DE LA REPUBLICA ORIENTAL DEL URUGUAY. Tel. addr., "Repbanco, Montevideo." Nominal capital, $25,000,000; paid up, $12,749,995. Branches in Uruguay, 25.

BANCO DE SEGUROS DEL ESTADO. State Insurance Bank. Capital, $3,000,000. Res. fund, $257,632.

Banco Hipotecario del Uruguay. Montevideo. Capital, paid up, $3,549,000. Res. fund, $138,162.

Banco Italiano del Uruguay. Est. 1887. Tel. addr., "Veneto, Montevideo." Capital, paid up, $3,000,000. Res. fund, $1,097,500. Branches at Mercedes and Paysandú.

State Bank of the Republic. Capital, $12,000,000.

Supervielle & Cie. Banco Francés, Montevideo.

(See also "Principal Banks operating in different States of Latin America" for foreign banks.)

## VENEZUELA

Banco de Caracas. Est. 1890. Tel. addr., "Bancarac, Caracas." Capital, subs., bolivares, 6,000,000; paid up, bolivares, 4,500,000.

Banco de Venezuela. Caracas. Tel. addr., "Bancovenz, Caracas." Capital, subs., bolivares, 12,000,000; paid up, bolivares, 9,000,000; reserves, bolivares, 2,905,217.

Boulton & Co. Puerto Cabello and Valencia.

H. L. Boulton & Co. Est. 1827. Caracas.

H. L. Boulton & Co. La Guaira.

H. L. Boulton, Jr. & Co. Maracaibo.

# FINANCIAL, LAND AND INVESTMENT COMPANIES

Alto Paraná Development Co., Ltd. Office, River Plate House, Finsbury Circus, London, E. C. Capital, auth. and issued, $3,300,000 (U. S.). Owns about 678,500 acres of cedar, pine and hardwood forest in Paraná, Brazil, and a sawmill at Corrientes. All work suspended except yerba cultivation.

Anglo-Colombian Development Co., Ltd. Reg. 1911. Capital, auth. and issued, $1,250,000 (U. S.). Owns gold, platinum and other properties in the Choco district, Colombia. Office, 8 Old Jewry, London, E. C.

Anglo-South American Real Property Co., Ltd. Reg. 1910. Office, 62½ Old Broad St., London, E. C. Capital, auth. and issued, $1,250,000 (U. S.). Owns about 1,770 square yards freehold properties in the Calle Reconquista, Buenos Aires, on which a nine-story building has been erected.

Argentine Eastern Land Co., Ltd. Reg. 1910. Office, 3 St. Helen's Place, Bishopsgate, London, E. C. Capital, auth., $1,000,000 (U. S.); issued, $750,000 (U. S.) Owns about 8,670 acres of estancia land in Entre Rios, Argentina; 36,439 acres near Yuti station on the Central Paraguay Railway; 1,056 acres of farm land in Argentina; 92 acres farm land in Paraguay, and 967 acres of township land.

Argentine Estates of Boveril, Ltd. Reg. 1909. Office, 160 Old St., London, E. C. Capital, auth., $3,500,000 (U. S.); issued, $3,205,070 (U. S.). Owns a group of freehold estancias stocked with cattle; also meat preserving factories in the provinces of Entre Rios and Santa Fé, Argentina.

Argentine Land and Investment Co., Ltd. Reg. 1888. Office, Palmerston House, Old Broad Street, London, E. C. Capital, auth., $3,250,000 (U. S.); issued, $2,701,545 (U. S.). Owns land in Buenos Aires, Santa Fé, Cordoba, and other parts of Argentina.

Argentine Northern Land Co., Ltd. Reg. 1908. Office, 3 St. Helen's Place, London, E. C. Capital, auth., $2,500,000 (U. S.); issued, $1,647,435 (U. S.).

Argentine Southern Land Co., Ltd. Reg. 1889. Office, River Plate House, 13 South Place, London, E. C. Capital, auth. and issued, $1,460,000 (U. S.). In 1915 this company owned 655,940 acres of land in the National Territory and Chubut, Argentina; 35,056 head of cattle, 105,800 sheep and 3,885 horses.

Argentine Timber and Estates Co., Ltd. Reg. 1909. Office, Dashwood House, New Broad St., London, E. C. Capital, auth., $1,350,000 (U. S.); issued, $600,000 (U. S.).

Bolivian Development and Colonization Co. Reg. Portland, Me., 1912. Office, Portland. Share capital, $25,000,000 (U. S.).

Brazilian, Canadian and General Trust, Ltd. Reg. 1906. Office, 16 & 17 Broad St. Ave., London, E. C. Capital, auth., $1,000,000 (U. S.); issued, $750,000 (U. S.). Carries on a general financial business.

Brazilian Development Syndicate, Ltd. Reg. 1907. Office, 71 George St., Edinburgh, Scotland. Capital, auth. and issued, $50,000 (U. S.).

Brazilian Railway Construction Co., Ltd. Reg. 1908. Office, 9 Throgmorton Ave., London, E. C. Capital, auth., $165,000 (U. S.); issued, $161,530.

Brazilian Trust and Loan Corporation, Ltd. Reg. 1912. Office, Pinner's Hall, Austin Friars, London, E. C. Capital, auth., $1,000,000 (U. S.); issued, $1,250,000 (U. S.). Trust, Loan and Agency business.

British and Mexican Trust Co., Ltd. Reg. 1907. Office, 367 Winchester House, Old Broad St., London, E. C. Capital, auth., $2,500,000 (U. S.); issued, $1,508,250 (U. S.). Assists in Mexican industrial development.

British Ecuador Syndicate, Ltd. Reg. 1908. Office, Finsbury Pavement House, London, E. C. Capital, auth., $1,000,000 (U. S.); issued, $798,750 (U. S.). Holds government concessions for exploiting oil lands.

Caja de Prestamos para Obras de Irrigacion y Fomento de la Agricultura Sociedad Anonima (Institution for encouragement of irrigation works and development of agriculture, Soc. Anon.). Est. 1908. Capital, auth. and issued, 10,000,000 pesos ($5,000,000). Makes loans to promote above-mentioned objects in Mexico.

California (Mexico) Land Co., Ltd. Reg. 1888. Office, 15 Angel Court, London, E. C. Capital, auth., $1,250,000 (U. S.); issued, $998,890 (U. S.). Owns 4,550,000 acres of land in Lower California under title from the Mexican government.

Chiapas Zone Exploration Co., Ltd. Reg. 1889. Office, 35 Copthall Ave., London, E. C. Capital, auth., $1,250,000 (U. S.); issued, $1,133,165 (U. S.). Acquired mining rights over 100 square miles of land surrounding the Santa Fe Mine, State of Chiapas, Mexico.

City of São Paulo Improvements & Freehold Land Co., Ltd. Reg. 1911. Capital, auth. and issued, $10,000,000 (U. S.). Owns about 14,806,597 square yards land in the City of São Paulo, Brazil.

Colombian India-Rubber Exploration Co., Ltd. Office, 7 Union Court, London, E. C. Capital, auth., $1,500,000 (U. S.); issued, $1,298,285. Developing 500,000 acres land; rubber, banana and cacao plantations.

Colombia Smelting and Concessions Co., Ltd. Reg. 1908. Office, 10–13 Broad St. Avenue, London, E. C. Capital, auth., $750,000 (U. S.); issued, $474,500 (U. S.). Holds government concessions to establish smelting and reduction works at Tolima. No work in progress.

Cordova Land Co., Ltd. Reg. 1913. Office, River Plate House, 13 South Place, London, E. C. Capital, auth., $6,000,000 (U. S.); issued, $4,392,535 (U. S.).

Owns 16 square leagues of land in the Province of Cordoba, Argentina; sheep and cattle raising.

Cuba Company, Inc. New Jersey 1900. Office, 52 William St., New York. Capital, auth., $16,000,000; issued, $10,500,000. Owns $10,000,000 common stock of the Cuba Railroad Co.; 300,000 acres of land in Cuba and various town sites, including the terminal city of Antilla; sugar mills and plantations in the provinces of Camaguey and Oriente.

Development Company of Santa Fé, Ltd. Reg. 1909. Office, 149 Leadenhall St., London, E. C. Capital, auth., $2,000,000 (U. S.); issued, $1,779,600. Owns 416,798 acres of land in the Province of Santa Fé, Argentina.

Domingo Tomba's Estates (Sociedad Anonima Bodegas y Viñedos Domingo Tomba). Reg. in Argentine 1911. Capital, auth. and issued, $3,000,000. Office, Buenos Aires. Wine concern; bodegas and vineyards.

Dutch Guiana Exploration Co., Ltd. Reg. 1910. Office, 6 St. Helen's Place, London, E. C. Capital, auth. and issued, $25,000 (U. S.).

Ecuadorian Corporation, Ltd. Reg. 1913. Office, 18 St. Swithin's Lane, London, E. C. Capital, auth., $2,500,000 (U. S.); issued, $1,537,415 (U. S.). Debentures, auth., $2,500,000 (U. S.). Owns stock and holds interest in Ecuador Breweries Co., Quito Tramways Co., Ince Springs Co., Quito Electric Light and Power Co.; shares in the Banco del Pinchincha, Quito, lands at Quito and Duran, and water rights near Quito.

Exploration Company, Ltd. (Mexico). Reg. 1904. Capital, auth. and issued, $3,750,000 (U. S.). Office, 24 Lombard St., London, E. C. Owns shares, inter alia, in Exploration Co. of England and Mexico; Buena Tierra Mining Co., etc.

Foreign and Colonial Lands Co., Ltd. Reg. 1911. Office, 3 Lombard St., London, E. C. Capital, auth. and issued, $500,000 (U. S.). Has option over 1,700,000 acres in Yucatan, Mexico, and oil, timber and land interests of 40,000 acres near Tehuantepec, besides railway timber contracts.

Forestal Land, Timber and Railways Co., Ltd. Reg. 1906. Office, 149 Lombard St., London, E. C. Capital, auth., $16,125,000 (U. S.); issued, $15,458,495 (U. S.). Owns large tracts of land, forest, cattle camps, light railroads and factories in Argentina.

Guatraché Land Co., Ltd. Reg. 1912. Office, 4 Moorgate St., London, E. C. Capital, auth., $2,750,000 (U. S.); issued, $838,560 (U. S.). Owns about 110,000 acres freehold land in the Pampa and Province of Buenos Aires, Argentina; also cattle raising.

Land Company of Chiapas, Mexico, Ltd. Reg. 1905. Office, 10 Copthall Ave., London, E. C. Capital, auth., $1,575,000 (U. S.); issued, $1,125,000 (U. S.). Owns great tracts of land; rubber, cocoanut and fibre plantations.

Leach's Argentine Estates, Ltd. Reg. 1912. Office, 8 Crosby Square, London. Capital, auth. and issued, $1,262,500 (U. S.). Company owns about 500,000 acres; sugar planters, refiners and manufacturers.

London and South American Investment Trust, Ltd. Reg. 1913. Capital, auth., $5,000,000 (U. S.); issued, $2,500,000 (U. S.).

Lower California Development Co., Ltd. (Mexico). Reg. 1890. Office, 10 Copthall Avenue, London, E. C. Capital, auth., $1,750,000 (U. S.); issued, $1,733,375 (U. S.). Held 849,000 acres of land, harbor and town site of San Quintin, and a mail contract with the Mexican government. Assets transferred (1907) to the Mexican Land and Colonization Co., Ltd.

Mexican Land and Colonization Co., Ltd. Reg. 1889. Office, 10 Copthall Avenue, London, E. C. Capital, auth., $15,500,000 (U. S.); issued, $13,563,700 (U. S.). Owns large tracts in Lower California and holds railway and irrigation concessions.

Mexican Mining and Industrial Corporation, Ltd. Reg. 1907. Office, 441 Salisbury House, London, E. C. Capital, auth., $768,750 (U. S.); issued, $277,470 (U. S.). Banking, finance and mercantile operations. Not limited to Mexico.

Minas Geraes and Espirito Santo Exploration Co., Ltd. (Brazil). Reg. 1912. Office, 3 East India Ave., London, E. C. Capital, auth., $650,000 (U. S.); issued, $393,030 (U. S.). Lumber and other concessions.

Mortgage Company of Costa Rica, Ltd. Reg. 1911. Office, 34 Great St. Helen's, London, E. C. Capital, auth. and issued, $250,000 (U. S.). Mortgage business.

Mortgage Company of the River Plate, Ltd. Reg. 1886. Office, 52 Moorgate St., London, E. C. Capital, auth., $7,500,000 (U. S.); issued $6,250,000 (U. S.). Grants first mortgages on freehold only. Managed by the River Plate Trust, Loan and Agency Co., Ltd.

New Zealand and River Plate Land Mortgage Co., Ltd. Reg. 1883. Office, 618 Salisbury House, Finsbury Circus, London, E. C. Capital, auth., $2,000,000 (U. S.); issue, $1,750,000 (U. S.).

Nicaragua Development Syndicate, Ltd. Reg. 1900. Capital, auth., $250,000 (U. S.); issued, $179,985 (U. S.). Mining, milling, etc.

North of Brazil Finance and Development Co., Ltd. Reg. 1910. Office, 6 Queen St. Place, London, E. C. Capital, $157,500 (U. S.). Mining operations.

Peru Mines and Estates, Ltd. Reg. 1909. Office, 39 Lombard St., London, E. C. Capital, auth. and issued, $750,000 (U. S.). Gold, silver, copper and coal.

Peruvian Corporation, Ltd. Reg. 1890. Office, 43-46 Threadneedle St., London, E. C. Capital, auth. and issued, $82,500,000 (U. S.). Controls over 1,000 miles of railroads, the greater part transferred to limited companies. Owns the steamers on Lake Titicaca and held guano concession (up to 2,000,000 tons), which latter has recently been revoked by the Peruvian government.

Port Argentine Land and Development Co., Ltd. Reg. 1909. Office, 73 Copthall Avenue, London, E. C. Capital, auth., $1,750,000 (U. S.); issued, $1,401,250 (U. S.). Land, and construction of public works in Argentina.

Port Madryn (Argentina) Co., Ltd. Reg. 1906. Office, River Plate House, 13 South Place, London, E. C. Capital, auth. and issued, $612,500 (U. S.). Owns land in Rio Negro and Chubut, the town sites of Port Madryn and Trelew; and shares in the Central Railway of Chubut Co., Ltd.

Quebrachales Fusionados (Sociedad Anonima). Inc. Argentina 1906. Office, Buenos Aires. Capital, auth. and issued, $1,750,000 (with power to increase to $10,000,000). Debentures outstanding, $534,500 (U. S.). Owns about 634,370 acres in Argentina and Paraguay.

Rio Negro (Argentina) Land Co., Ltd. Reg. 1907. Office, River Plate House, 13 South Place, London, E. C. Capital, auth. and issued, $1,500,000 (U. S.). Owns about 590,000 acres; chief business, sheep raising.

River Plate and General Investment Trust Co., Ltd. Reg. 1888. Capital, auth., $5,000,000 (U. S.); issued, $1,250,000 (U. S.).

River Plate Land and Farming Co., Ltd. Reg. 1863. Office, 29 Exchange Buildings, Bixteth St., Liverpool. Capital, auth. and issued, $200,000 (U. S.).

River Plate Trust, Loan and Agency Co., Ltd. Reg. 1881. Office, 52 Moorgate St., London, E. C. Capital, auth. and issued, $12,500,000 (U. S.).

South American Cattle Farms, Ltd. Reg. 1910. Office, Thames House, Queen St. Place, London E. C. Capital, auth. and issued, $2,500,000 (U. S.). Owns 10 estancias in Argentina and nine in Paraguay (about 1,100,000 acres) leased to Liebig's Extract of Meat Co., Ltd.

South American Development and Construction Syndicate, Ltd. Capital, auth., $100,000 (U. S.); issued, $2,500.

Tecka (Argentine) Land Co., Ltd. Reg. 1910. Office, River Plate House, 13 South Place, London, E. C. Capital, auth. and issued, $1,000,000 (U. S.). Owns about 383,000 acres; sheep and cattle raising in Chubut territory.

United States and South American Investment Trust Co., Ltd. Reg. 1886. Office, 105 Winchester House, London, E. C. Capital, auth., $5,000,000 (U. S.); issued, $2,250,000.

Venezuelan Oil Concessions, Ltd. Reg. 1913. Office, 20 Copthall Ave., London, E. C. Capital, auth., $750,000 (U. S.); issued, $650,000 (U. S.). Oil exploration concessions over 3,000 square miles of territory.

## RAILWAY COMPANIES

### ARGENTINA

Railways in operation, 1915, 22,688 miles; State-owned, 4,136 miles.

Note.— "Reg." indicates that the company was registered or incorporated in Great Britain.

Argentine Great Western Railroad Co., Ltd. Reg. 1887. Capital, $26,250,000. Mileage, 979.

Argentine North Eastern Railroad Co. Reg. 1887. Capital, $14,000,000. Mileage, 752.

Argentine Railway Co., Inc. (Maine) 1912. Capital, $45,000,000.

Argentine Transandine Railway Co., Ltd. Reg. 1886 as the Buenos Aires and Valparaiso Railway Co., Ltd. (Name changed 1904). Mileage, 111.

Bahia-Blanca and North Western Railway Co. Reg. 1889. Capital, $33,000,000. Mileage, 874.

Buenos Aires and Pacific Railway Co., Ltd. Reg. 1882. Capital, $61,000,000. Mileage, 1,430.

Buenos Aires Central Railway (Ferro Carril Central de Buenos Aires, Limitada). Inc. 1906. Capital, $25,000,000. Mileage (1914-15), 230.

Buenos Aires, Ensenada and South Coast Railway Co., Ltd. Reg. 1888. Capital, $4,000,000. Mileage, 109.

Buenos Aires Great Southern Railway Co., Ltd. Reg. 1862. Capital, $200,000,000. Mileage, 3,763.

Buenos Aires Midland Railway Co., Ltd. (Formerly B. A. Central Railway Co.). Reg. 1906. Capital, $7,500,000. Mileage, 322.

Buenos Aires Western Railway, Ltd. Reg. 1890. Auth. capital, $130,000,000. Mileage, 1,867.

Central Argentine Railway, Ltd. Reg. 1873, 1884, 1908. Auth. capital, $208,472,340. Mileage, 3,307.

Central Railway of Chubut Co., Ltd. Reg. 1886. Auth. and issued capital, $1,000,000. Mileage, 63.

Compagnie Française de Chemins de Fer de la Province de Santa Fé, Société Anonyme (French Railways of the Province of Santa Fé). Inc. Paris, 1888. Auth. and issued capital, 72,000,000 francs ($14,400,000). Mileage, 1,860.

Cordoba Central Railways Co., Ltd. Reg. 1887. Mileage, 1,186.

Entre Rios Railways Co., Ltd. Reg. 1891. Auth. capital, $25,000,000. Mileage, 730.

Villa Maria and Rufina Railway Co., Ltd. Reg. 1888. Capital, $1,968,750. Mileage, 141.

Western Railway of Buenos Aires (Ferro-Carril del Oeste). Est. 1857. Five per cent mortgage sterling bonds guaranteed by government.

## BOLIVIA

Railroads in operation, about 1,000 miles.

Arica (Chile) — La Paz Railway. Est. 1904. In Bolivia, 186 miles; 22 in Chile.

Antofagasta and Bolivia Railway. Mileage, 719.

## BRAZIL

Railroads in operation, about 17,000 miles.

Brazil Great Southern Railway Co., Ltd. Reg. 1883. Auth. and issued capital, $1,750,000. Mileage, 186. (Receiver and manager appointed by British court in 1914.)

Brazil North Eastern Railways, Ltd. Reg. 1910. Auth. and issued capital, $1,750,000. Mileage, 472; extension in progress, 900 miles.

Brazil Railway Co., Inc. (Maine, U. S. A.) 1906. Auth. capital, $60,000,000. Mileage, 3,426 (Receiver appointed U. S. A. 1914; London, Eng. 1915).

Great Western of Brazil Railway Co., Ltd. Reg. 1872. Capital, $12,500,000. Mileage, 1,010.

Leopoldina Railway Co., Ltd. Reg. 1897. Auth. capital, $49,226,340. Mileage, 1,806.

Leopoldina Terminal Co., Ltd. Reg. 1911. (Ferry boats, electric tramways and warehouses at Rio de Janeiro.) Auth. and issued capital, $6,250,000.

Madeira-Mamoré Railway Co., Inc. (Maine, U. S. A.). Auth. and issued capital, $11,000,000. Mileage, 227; in Bolivia, 62 miles. The company holds large land concessions.

Mogyana Railways and Navigation Co., Inc. 1872. Auth. and issued capital, milreis 80,000,000 ($43,200,000).

Paulista Railway Co (Companhia Paulista de Estradas de Ferro). Est. 1869. Auth. and issued capital, milreis 92,000,000 ($49,680,000).

Quarahim International Bridge Co., Ltd. Reg. 1911. Auth. and issued capital, $1,000,000.

San Paulo and Minas Railway Co., Ltd. Reg. 1907. Auth. and issued capital, $1,000,000. Mileage, 90.

San Paulo (Brazilian) Railway Co., Ltd. Reg. 1859 and 1902. Auth. capital, $23,600,000; issued, $20,000,000.

Sorocabana Railway Co., Inc. (Maine, U. S. A.) 1907. Auth. and issued capital, $10,000,000. Mileage, 911.

Southern São Paulo Railway Co., Ltd. Reg. 1911. Auth. and issued capital, $4,000,000. Mileage, 101.

State of Bahía South Western Railway Co., Ltd. Reg. 1908. Capital, $1,500,000. Concession, 250 miles; in operation, 53 miles.

## CHILE

Railways in operation (1915), 5,015 miles; State-owned, 3,236 miles.

Aguas Blancas Railroad (Compañia Ferro-Carril de Aguas Blancas). Inc. 1908. Capital, $10,000,000.

Antofagasta (Chile) and Bolivia Railroad Co., Ltd. Reg. 1888. Capital, $30,000,000. Mileage, 1,173.

Arauco Company, Ltd. Reg. 1888. Capital, $2,500,000. Coalfields concessions and railroads, 65 miles.

Arica and Tacna Railway Co. Est. 1853. Capital, $2,500,000. Mileage, 40.

Carrizal and Cerro Blanco Railway Co. (Ferro Carril de Carrizal y Cerro-Blanco). Inc. 1866 and 1880. Capital, $1,500,000. Mileage, 98.

Chilian Eastern Central Railway Co., Ltd. Reg. 1910. Concession, 90 miles. Capital, auth., $1,200,000; issued, $1,000,035.

Chilian Northern Railway Co., Ltd. Reg. 1910. Concession, 450 miles. Auth. and issued capital, $2,500,000.

Chilian Transandine Railway Co., Ltd. Reg. 1885 and 1905. Auth. and issued capital, $7,500,000. Mileage, 43.

Nitrate Railways Co., Ltd. Reg. 1882. Auth. capital, $16,560,000; issued, $9,138,200. Mileage, 392.

Taltal Railway Co., Ltd. Reg. 1881. Capital, $5,000,000. Mileage, 184.

## COLOMBIA

Railroads in operation, 840 miles.

Barranquilla Railway and Pier Co. Reg. 1888. Capital, $1,250,000. Mileage, 18.

Bogota-Sabana Railway. Five per cent mortgage bonds; government guaranty.

Colombia Railways and Navigation Co., Ltd. Reg. 1906 and 1913. Auth. and issued capital, $3,750,000.

Colombian Central Railway Co., Ltd. Reg. 1905. Concession, 66 miles. Auth. and issued capital, $1,500,000.

Colombian National Railway Co., Ltd. Reg. 1899. Concession, 86 miles and 123,000 acres of land. Auth. and issued capital, $4,500,000.

Colombian Northern Railway Co., Ltd. Reg. 1898. Auth. and issued capital, $1,500,000. Mileage, 30.

Cúcuta Railway Co. (Compañia del Ferro-Carril de Cúcuta). Inc. 1865. Auth. and issued capital, $1,800,000. Concession, 35 miles and 247,100 acres waste land.

Dorado Extension Railway, Ltd. Reg. 1905. Auth. and issued capital, $1,750,000. Mileage, 71.

Great Northern Central Railway of Colombia, Ltd. Reg. 1907. Auth. capital, $2,500,000. Concession, about 312 miles.

Pacific Railway of Colombia (Compañia del Ferrocarril del Pacifico). Inc. 1908. Auth. and issued capital, $1,400,000. Mileage under construction, 362.

Santa Marta Railway Co., Ltd. Reg. 1887. Auth. capital, $3,000,000; issued, $1,745,850. Mileage, 99.

## COSTA RICA

Railroads in operation, nearly 400 miles.

Costa Rica Railway Co., Ltd. Reg. 1886. Auth. and issued capital, $9,000,000. Mileage, 221.

## CUBA

Railroads in operation (1916), about 1,900 miles.

Cuba Railroad Co., Inc. (New Jersey) 1912. Auth. capital, $30,000,000; issued, $20,000,000. Mileage, 690.

Cuban Central Railways, Ltd. Reg. 1899. Auth. and issued capital, $11,500,000. Mileage, 353.

Havana Terminal Railroad Co., Inc. (Maine) 1900. Auth. capital, $5,000,000.

Mariano and Havana Railway Co., Ltd. Reg. 1871. Auth. and issued capital, $500,000. Mileage, 19.

United Railways of the Havana and Regla Warehouses. Reg. 1898. Capital, $54,800,000. Mileage, 681.

Western Railway of Havana, Ltd. Reg. 1892. Capital, $6,000,000. Mileage, 147. Controlled by the United Railways Co. above.

## DOMINICAN REPUBLIC

Railroads in operation, 147 miles; of which 60 miles is under government. Construction proposed: From Santo Domingo City to La Vega, 80 miles. There are also private lines on the large estates, about 250 miles.

Samaná and Santiago Railway Co., Ltd. Reg. 1888. Auth. capital, $3,000,000. Mileage, 87.

## ECUADOR

Railroads in operation, about 400 miles.

Central Railway of Ecuador, Ltd. Reg. 1910. Auth. and issued capital, $500,000. Mileage, 38.

Guayaquil and Quito Railway Co., Inc. (New Jersey) 1897. Auth. and issued capital, $12,283,000. Mileage, 290.

## GUATEMALA

Railroads in operation, over 500 miles.

International Railways of Central America, Inc. (New Jersey) 1904. Auth. and issued capital, $40,000,000.

## MEXICO

Railroads in operation: approximate total mileage, 16,000.

Interoceanic Railway of Mexico (Acapulco to Vera Cruz). Reg. 1888. Auth. and issued capital, $20,000,000. Mileage, 1,047.

Mexican Eastern Railway Co., Ltd. Reg. 1901. Leased to the Interoceanic (above). Authorized and issued capital, $50,000. Mileage, 79.

Mexican Railway Co., Ltd. Reg. 1864 and 1867. Auth. and issued capital, $29,103,900. Mileage, 490.

Mexican Southern Railway, Ltd. Reg. 1889. Leased to the Interoceanic. Auth. and issued capital, $5,000,000. Mileage, 313.

Mexican Union Railway, Ltd. Reg. 1910. Auth. and issued capital, $650,000. Mileage, 110.

Mexico North Western Railway Co. (Ferrocarril Nor-Oeste de Mexico). Inc. 1909. Auth. capital, $40,000,000; issued, $25,000,000. Mileage, 512.

Michoacan and Pacific Railway Co., Ltd. Reg. 1896. (Leased to National Railways of Mexico.) Auth. and issued capital, $300,000.

Michoacan Railway and Mining Co., Ltd. Reg. 1889. (Acquired by the Michoacan and Pacific Railway Co.).

Tampico-Panuco Valley Railway Co., Ltd. Reg. 1913. Capital, $1,500,000. Concession, 60 miles.

United Railroads of Yucatan, Mexico (Ferro-Carriles Unidos de Yucatan, Sociedad Anonima). Inc. 1902. Auth. and issued capital, $23,000,000. Mileage, 531.

Vera Cruz (Mexico) Railways, Ltd. Reg. 1900. Capital, $3,750,000. Railways, tramways and river transport.

Vera Cruz Terminal Co., Ltd. Reg. 1907. Controlled by other companies.

Vera Cruz to Isthmus Railroad, Inc. 1898 and 1908. Capital, $1,000,000. Mileage, 293.

## NICARAGUA

Pacific Railroad of Nicaragua — the only line — 180 miles.

## PARAGUAY

Paraguay Central Railway Co., Ltd. Reg. 1889. Auth. and issued capital, $1,814,650. Mileage, 255.

## PERU

Lima Railways Co., Ltd. Reg. 1865. Auth. and issued capital, $2,000,000. Mileage, 18.

North Western Railway Co. of Peru, Ltd. Reg. 1909. Capital, $3,000,000. Mileage, 130.

## SALVADOR

Railroads in operation, about 280 miles.

Salvador Railway Co., Ltd. Reg. 1895 and 1897. Auth. and issued capital, $2,500,000. Mileage, 100.

## URUGUAY

Railroads in operation, about 1,800 miles.

Central Uruguay Eastern Extension Railway, Ltd. Reg. 1889. Auth. capital, $9,000,000. Mileage, 246½.

Central Uruguay Northern Extension Railway Co., Ltd. Reg. 1888. Auth. and issued capital, $5,000,000. Mileage, 185.

Central Uruguay Railway Co. of Montevideo, Ltd. Reg. 1876. Auth. capital, $22,500,000; issued, $14,000,000. Mileage, 977.

Central Uruguay Western Extension Railway, Ltd. Reg. 1899. Auth. capital, $4,312,500; issued, $4,249,800. Mileage of concession, 211.

(The above four lines are under the same management.)

Midland Uruguay Extension Railway Co., Ltd. Reg. 1911. Auth. and issued capital, $500,000. Mileage, 35½.

Midland Uruguay Railway Co., Ltd. Reg. 1887. Auth. and issued capital, $3,000,000. Mileage, 284.

North Eastern of Uruguay Railway Co., Ltd. Reg. 1886. Auth. and issued capital, $4,000,000. Mileage, 76.

North Western of Uruguay Railway Co., Ltd. Reg. 1882. Auth. capital, $7,050,000; issued, $4,985,715. Mileage, 113.

Uruguay East Coast Railway Co. Reg. 1908. Capital, $625,000. Mileage, 71.

Uruguay Northern Railway Co., Ltd. Reg. 1887. Capital, $1,750,000.

## VENEZUELA

Railroads in operation, 540 miles.

Bolivar Railway Co., Ltd. (Includes the South-Western of Venezuela.) Reg. 1896. Capital, $5,000,000. Total mileage, 110.

La Guaira and Caracas Railway Co., Ltd. Reg. 1882. Auth. and issued capital, $1,750,000. Mileage, 23.

Puerto Cabello and Valencia Railway Co., Ltd. Reg. 1885. Auth. and issued capital, $2,300,000. Mileage, 34.

Venezuela Central Railway Co., Ltd. Reg. 1905. Auth. and issued capital, $1,000,000. In operation, 46 miles.

# SHIPPING COMPANIES

Owing to the European war most of the services have been disorganized or entirely suspended.

Amazon River Steam Navigation Co., Ltd.

American and River Plate Line. Service from New York and New Orleans to river Plate and Brazilian ports.

Argentine Navigation Co. (Nicholas Mihanovich) Ltd. Reg. 1909. Office, 8 Crosby Square, London, E. C., and Buenos Aires. Capital, auth. and issued, $10,000,000. Runs over 300 steamers between Argentina, Uruguay and Southern Brazil.

Atlantic, Gulf & West Indies Steamship Lines. Inc. Maine 1908. Controls Mallory Steamship Co., New York and Porto Rico Steamship Co., Clyde Steamship Co., New York and Cuba Mail Steamship Co. and the Southern Steamship Co.

Blue Star Line. Carriers of frozen produce between South America and Great Britain.

Booth Steamship Co., Ltd. Passenger and cargo service between United States, Europe and South America.

British and Argentine Steam Navigation Co., Ltd. Passenger and cargo service between Great Britain, Antwerp, Buenos Aires and river Plate.

Clyde Steamship Co. New York and Dominican Republic.

Companhia Nacionale de Navegação de Rio de Janeiro.

Compania Peruana de Vapores y Dique del Callao.

Compania Sud Americana de Vapores (Chile).

Companhia Commercio e Navegação. Brazilian coastal trade.

Compagnie de Navigation Sud-Atlantique. Mediterranean ports and Brazil.

Compagnie des Chargeurs Reunis. Service between France, Spain, Uruguay and Brazil.

Compania Transatlantica de Vapores Correos Españoles. Service (mail, passenger and cargo) between Spain, France, England and Brazil.

Det Forende Damkskibs Selskab. Denmark and river Plate.

Domingo-Barthe and Co. Steamship service between Buenos Aires and Paraguay.

East Asiatic (Steamship) Co., Ltd. Service between Denmark, Holland, England and the Guianas.

Esperança Maritima. Brazilian coastal steamship trade.

Empresa de Navegação. Coastal shipping, Brazil and Uruguay.

Italia (Societa di Navigazione e Vapore). Steamship service between Mediterranean ports and South America.

Lamport and Holt, Ltd. Steamship service between New York and all parts of South America.

Ligure Brasiliana. Steamship service between Mediterranean and Brazil.

Lloyd Braziliero. Steamship service between Brazil, Argentina and Uruguay. Office, Buenos Aires.

Lloyd del Pacifico. Steamship service between Brazilian and Italian ports

Lloyd Italiano. Steamship service between Brazil and Italy.

Marina Mercante Argentina. Coastal service between Argentina, Brazil and Uruguay.

Munson Line. Steamship service between New York and the river Plate.

Nautilus Steam Shipping Co., Ltd. (Gulf Line). Cargo service between Great Britain, Chile, Peru and Ecuador.

Navigazione Generale Italiana. Mail service between Brazil and Italy.

Nelson Line. Steamship mail and passenger service between England, Argentina and Uruguay.

New York and Cuba Mail Steamship Co. Runs steamers to Cuba, Mexico and Bahamas.

New York and Porto Rico Steamship Co.

New York and Pacific Steamship Co., Ltd. Cargo service between New York and Pacific Coast of South America.

New Zealand Shipping Co., Ltd. Service between England, Uruguay and Brazil.

NORTON LINE. Service between New York, Brazil, La Plata and Uruguay.

PRINCE LINE, LTD. Service between England and South American Atlantic ports.

RAPOREL STEAMSHIP LINE. E. M. Raphael & Co., 17 Battery Place, New York. Direct line to West Indian ports; Martinique, Guadeloupe, Guianas.

RED "D" LINE. New York and Venezuela.

ROYAL MAIL STEAM PACKET CO. Mail, passenger and cargo service between England, West Indies, New York, Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Falkland Islands, Panama, Peru, Uruguay and Venezuela.

SOCIÉTÉ GÉNÉRALE DE TRANSPORTS MARITIMES À VAPEUR. Steamship service between Mediterranean ports, Argentina, Brazil and Uruguay.

UNITED FRUIT CO. New York and South American ports steamship service.

## ELECTRIC LIGHTING, TRACTION AND POWER COMPANIES

ANGLO-ARGENTINE TRAMWAYS CO., LTD. Reg. 1887. Office, 62 Gresham House, Old Broad St., London, E. C. Auth. share capital, $55,000,000 (U. S.). Issued share capital, $44,750,000 (U. S.). Owns 350 miles street railroads in Buenos Aires.

ANGLO-MEXICAN ELECTRIC CO., LTD. Reg. 1906. Capital, auth. and issued, $1,500,000 (U. S.). Holds controlling interest in the Puebla Tramway, Light and Power Co.

ARGENTINE POWER AND RAILLESS TRACTION CO., LTD. Authorized by government decree, 1913. Offices, 1470 Sarmiento, Buenos Aires; 9 de Julio, 1134, Mendoza. Capital, auth., $3,500,000 gold. Holds various concessions — some in perpetuity — of riparian water power.

BARBADOS ELECTRIC SUPPLY CORPORATION, LTD. Reg. 1909. Office, Basildon House, Moorgate St., London, E. C. Capital, auth., $300,000; issued, $275,800. Exclusive right to supply electric power for the city of Bridgetown.

BRAZILIAN TRACTION, LIGHT AND POWER CO., LTD. Reg. Canada 1912. Office, 9 Toronto St., Toronto. Capital, auth., $120,000,000; issued, $114,177,200. Controls Rio de Janeiro Tramway, Light and Power Co., Ltd., São Paulo Tramway, Light & Power Co., Ltd., and the São Paulo Electric Co., Ltd.

BRAZILIAN STREET RAILWAY CO., LTD. Office, 134 Palmerston House, Bishopsgate, London, E. C. Capital, auth., $600,000 (U. S.); issued, $147,597 (U. S.). Owns street railroads (steam) in Pernambuco.

BUENOS AIRES CITY AND SUBURBAN TRAMWAYS, LTD. Office, 4 Moorgate St., London, E. C. Capital, auth., $2,500,000 (U. S.); issued, $950,625 (U. S.).

BUENOS AIRES LACROZE TRAMWAYS CO., LTD. Office, Buenos Aires. Capital, auth. and issued, $25,000,000 paper.

BUENOS AIRES PORT AND CITY TRAMWAYS, LTD. Reg. 1905. Office, 4 Moorgate St., London, E. C. Capital, auth., $5,000,000 (U. S.); issued, $1,606,715 (U. S.).

CEARA TRAMWAY, LIGHT AND POWER CO., LTD. Fortaleza, Brazil. Reg. 1912. Office, 42 New Broad St., London. Capital, auth., $2,000,000 (U. S.); issued, $1,650,000 (U. S.).

CENTRAL MEXICAN LIGHT AND POWER CO. Inc. Maine 1910. Reg. office, Colorado Springs, Col. Capital, auth. and issued, $2,750,000.

CITY OF SANTOS IMPROVEMENTS. Reg. 1880. Office, 174 Gresham House, Old Broad St., London, E. C. Capital, auth., $4,500,000 (U. S.); issued, $3,420,755. Owns street railroads, gas, water and electric light works in Santos, Brazil.

Compagnie d'Entreprises Electriques de Para. Reg. Antwerp 1899. Capital, auth. and issued, 2,500,000 francs ($500,000).

Companhia Brazileira de Energia Electrica. Reg. Rio de Janerio 1909. Capital auth. and issued milreis paper 30,000,000 ($10,000,000).

Companhia de Electricidade e Viação Urbana de Minas Geraes. Brazil. Reg. 1912. Power stations, electric street railroads and lighting.

Compania Alemana Transatlantica de Electricidad. Reg. Buenos Aires. Controls all the light and power plants in the city.

Compania de Electricidad de la Provincia de Buenos Aires, Ltd. Reg. 1911. Office, 24 St. Mary Ave., London, E. C. Auth. Share Capital $4,125,000 (U. S.). Issued, $3,500,000. Owns and control numerous power stations in the suburbs of Buenos Aires and other towns.

Compania de Tramways de Buenos Aires a Quilmes. Reg. Buenos Aires 1904. Capital, auth. and issued, $200,000 gold.

Compania General de Electricidad Industrial. Reg. Chile. Office, Santiago. Capital, 1,700,000 pesos (paper).

Compania Hidro-Electrica de Tucuman, Sociedad Anonima. Argentina. Inc. Argentina 1910. Office, Buenos Aires. Capital, auth., $2,000,000 gold; issued, $555,000.

Compania Industrial de Electricidad del Rio de la Plata. Reg. Buenos Aires 1900. Share Capital, auth. and issued, $600,000 gold.

Compania Luz y Fuerza de Parana. Reg. Buenos Aires. Capital, auth., $795,000 paper.

Cordoba Light, Power and Traction Co., Ltd. Argentina. Reg. 1908. Office, 62 London Wall, London, E. C. Capital, auth., $5,000,000 (U. S.); issued, $4,500,000.

Cordoba Electric Tramways Construction Co., Ltd. Capital, auth. and issued, $250,000 (U. S.).

Empresa de Luz y Fuerza Electrica. Guayaquil, Ecuador. Capital, auth. and issued, $750,000 (U. S.).

Electric Light and Power Co. of Cochabamba (Compania Luz y Fuerza Electrica Cochabamba). Bolivia. Capital, auth., 5,000,000 bolivianos; issued, 1,015,500 bolivianos.

Ferro Carril de Pernambuco. Brazil. Reg. Recife 1870. Street railroads.

Forca e Luz de Cataguazes. Reg. Cataguazes, Brazil, 1905. Light and power concessions in three towns.

Forca e Luz Porto Alegrense. Brazil. Reg. Porto Alegre 1905. Electric light and street railroads.

Guanajuato Power and Electric Co. Mexico. Inc. Colorado 1902. Head office, Hagerman Buildings, Colorado Springs, Col. Capital, auth. and issued, $5,000,000.

International Light and Power Co., Ltd. Reg. Toronto 1913. Office, Canadian Bank of Commerce Building, Toronto. Capital, auth., $10,000,000.

La Plata Electric Tramways Co., Ltd. Reg. 1909. Office, London. Capital, auth., $2,250,000 (U. S.); issued, $1,756,935.

Lima Light, Power and Tramways Co. (Empresas Electricas Asociadas). Inc. Peru 1910. Capital, auth., $7,500,015 (U. S.); issued, $6,350,015 (U. S.).

Manaos Tramways and Light Co., Ltd. Reg. 1909. Office, London. Capital, auth. and issued, $1,500,000 (U. S.).

Mexican Electric Light Co., Ltd. Inc. Canada 1905. Capital stock auth. and issued, $6,000,000. Properties leased to Mexican Light & Power Co.

Mexican Light and Power Co., Ltd. Inc. Canada 1902. Capital, auth., $25,000,000; issued, $19,585,000. Owns large concessions of water power. Controlled by the Mexican Tramways Co.

Mexican Northern Power Co., Ltd. Inc. Canada 1909. Head office, 76 Adelaide St., West, Toronto. Capital, auth., $15,000,000; issued, $12,000,000. Formed to acquire all the issued share capital of the Compania Agricola y de Fuerza Electrica del Rio Conchos Sociedad Anonima, a Mexican company owning concessions of water power, lands and railroads.

Michoacan Power Co. Inc. Colorado. Capital, auth. and issued, $1,000,000. Worked by the Guanajuato Power & Electric Co.

Minas Geraes Light and Tramways Co. (Companhia de Electricidade e Viaçao Urbana de Minas Geraes). Inc. Brazil 1912. Capital, auth. and issued, $500,000.

Monterey Railway, Light and Power Co. Mexico. Inc. Canada 1905 as the Monterey Electric and Gas Co. Head office, Toronto. Capital, auth., $5,000,000; issued, $4,600,000. Street railroads, waterworks and sewerage concessions in addition to light and power business.

Pachuca (Mexico) Light and Power Co. (Compania de Luz y Fuerza de Pachuca Sociedad Anonima). Inc. Mexico 1910. Capital, auth. and issued, $4,000,000 (Mexican), all held by the Mexican Light & Power Co., Ltd. The Pachuca Company was originally formed as the Compañia Irrigadora y de Luz del Estado de Hidalgo Sociedad Anónima.

Quito Electric Light and Power Co. Ecuador. Reg. New Jersey 1905. Capital, auth. and issued, $450,000.

Quito Tramways Co. Reg. Wilmington, Del. Capital, auth. and issued, $450,000.

Rio de Janeiro Tramway, Light and Power Co., Ltd. Reg. Canada 1904. Capital, auth. and issued, $4,000,000. Controlled by the Brazilian Traction, Light and Power Co. Also holds gas and telephone concessions.

River Plate Electricity Co., Ltd. Argentina. Reg. 1902. Office, Capel House, 62 New Broad St., London, E. C. Capital, auth., $1,750,000 (U. S.); issued, $1,625,000.

Rosario Electric Co., Ltd. Argentina. Reg. 1902. Capital, auth., $1,800,000 (U. S.); issued, $1,400,000.

São Paulo Electric Co., Ltd. Brazil. Inc. Canada 1910. Head office, Manning Arcade, Toronto. Capital, auth., $10,000,000 (U. S.); issued, $5,000,000.

São Paulo Tramway, Light and Power Co., Ltd. Reg. Canada 1899. Share capital, auth., $10,000,000. Controlled by the Brazilian Traction, Light & Power Co.

South American Light and Power Co., Ltd. Reg. 1902. Head office, Dashwood House, New Broad St., London, E. C. Capital, auth., $1,000,000 (U. S.); issued, $862,000. Supplies power mainly in Argentina.

Southern Brazil Electric Co., Ltd. Reg. 1913. Office, 188 Dashwood House, New Broad St., London, E. C. Capital, auth., $3,750,000 (U. S.); issued, $1,800,000 (U. S.).

Tampico Electric Light, Power & Traction Co., Ltd. Reg. 1912. Office, 47 Parliament St., London. Capital, auth. and issued, $1,250,000 (U. S.).

United Electric Tramways of Caracas, Ltd. Venezuela. Reg. 1906. Capital, auth., $1,000,000 (U. S.); issued, $850,000.

United Electric Tramways of Montevideo, Ltd. Reg. 1904. Capital, auth. and issued, $2,500,000 (U. S.).

Venezuela Electric Light Co., Ltd. Reg. Canada 1905.

Vera Cruz Electric Light, Power and Traction Co., Ltd. Reg. 1906. Office, 47 Parliament St., London. Capital, auth. and issued, $1,750,000 (U. S.).

## COMMERCIAL AND INDUSTRIAL CONCERNS

American Metal Co., Ltd. Inc. New York 1887. Controls Compañia Minera de Penoles of Mapime, Mexico, and Lanyon Starr Smelting Co. of Mexico.

Anglo-Brazilian Meat Co., Ltd. Reg. 1912. Offices, 1-4 Giltspur St., London, E. C. Capital, auth., $700,000 (U. S.); issued, $575,000 (U. S.). Beef curing business at Bagé, Rio Grande do Sul.

Anglo-Chilian Pastoral Co., Ltd. Reg. 1904. Office, 31 Budge Row, Cannon St., London, E. C. Capital, auth., $600,000; issued, $41,800. Holds concessions of 1,440,000 acres land; sheep and cattle raising.

Argentine Hardwoods & Lands Co., Ltd. Reg. 1910. Office, 53 Palmerston House, Old Broad St., London, E. C. Capital, auth., $1,625,000; issued, $1,144,950. Lumber estates, about 117,357 acres.

Argentine Refining Co. (Refinería Argentina Sociedad Anónima). Formed 1886. Office, Calle Bartolomé Mitre 531 (altos), Buenos Aires. Capital, auth., $3,000,000; issued, $2,000,000. Sugar refiners and selling agents for Argentine sugar factories.

Argentine Stone and Brick Co., Ltd. Reg. 1909. Office, 8/9 Broad St. Ave., London, E. C. Capital, auth., $375,000; issued, $317,875.

Argentine Timber and Estates Co., Ltd. Reg. 1915. Office, 3 St. Helen's Place, London, E. C. Capital, auth., $215,000; issued, $189,250. Owns about 193 square miles freehold lumber lands at Santa Barbara, North Argentina.

Argentine Tobacco Co., Ltd. Reg. 1911. Office, 8 Crosby Square, London, E. C. Capital, auth., $9,816,330; issued, $8,821,210.

Argentine Warrant Co., Ltd. Reg. Buenos Aires. Warehousing and forwarding.

Argentine Western Petroleum Syndicate, Ltd. Office, 13 South Place, London, E. C. Capital, auth., $250,000.

Arizu Estate (Sociedad Anonima Bodegas Arizu). Reg. 1907. Office, Mendoza, Argentina. Capital, auth., $10,000,000 paper; issued, $6,000,000 paper. In United States currency these two amounts represent $4,366,810 and $2,620,085 respectively). Wine growers.

Aviso Mines, Ltd. (Mexico). Reg. 1909. Silver, lead and copper. Capital, auth., $250,000; issued, $93,750.

Azucarera Argentina Sociedad Anonima. Reg. Buenos Aires 1882. Capital, auth. and issued, $1,500,000 gold. Sugar refiners.

Azucarera Concepion Sociedad Anonima. Reg. Buenos Aires 1902. Capital, paid up, $3,000,000 gold. Sugar plantations and refineries.

Bagley (M. S.) and Co., Ltd. Reg. Buenos Aires 1907. Capital, auth. and issued, $1,500,000 gold. Cracker manufacturers.

Bayano River (Panama) Lumber Co. Inc. Maine 1907. Capital, auth., $2,000,000; outstanding, $1,000,000.

Bethlehem Steel Corporation. Owns iron-ore deposits near Coquimbo, Chile.

Braden Copper Mines Co. (Chile). Inc. Delaware 1909. Capital, $2,332,030. Owns mines, plant and railroads in the Province of O'Higgins, Chile. Office, 120 Broadway, New York.

Brazilian Extract of Meat and Hide Co., Ltd. Reg. 1887. Office, 3 Great Winchester St., London, E. C. Capital, auth., $577,820; issued, $105,545. Hide and jerked beef factory at Paredão, near Porto Alegre, Brazil.

Brazilian Warrant Co., Ltd. Reg. 1911. Office, Brazil House, 2 Great St. Helen's, London, E. C. Capital, auth., $5,000,000; issued, $4,312,500. Provides financial, warehousing and transport facilities to coffee, teas, etc., principally in the State of São Paulo.

British and Argentine Meat Co., Ltd. Reg. 1892 as James Nelson & Sons, Ltd.; name changed in 1914. Office, Cecil House, Holborn Viaduct, London, E. C. Capital, auth., $10,000,000; issued, $7,263,630.

Buenos Aires Southern Dock Co., Ltd. Reg. 1898. Office, River Plate House, Finsbury Circus, London, E. C. Capital, auth., $5,000,000; issued, $3,500,000. Perpetual concession from Argentine government to construct, own and work docks at Buenos Aires.

Capillitas Consolidated Mines, Ltd. Reg. 1909. Capital, auth. $3,000,000; issued, $2,080,520. Copper and timber; about 125,000 acres lands.

Catalinas Warehouses and Mole Co., Ltd. (Vias de Ferrocarril Catalinas). Reg. 1897. Capital, auth., $7,100,000 (U. S.). Owns dock warehouses at Buenos Aires.

Central Aguirre Sugar Companies. Plant at Jobos, Porto Rico.

Central Cuba Sugar Co. Inc. New York 1911.

Central Produce Market of Buenos Aires (Sociedad Anonima Mercado Central de Frutos). Est. Argentina 1886. Capital, auth., $3,000,000; issued, $2,734,400. Central Market concession at the terminus of the Western Railway of Buenos Aires on the Riachuelo.

Chilian Mills Co., Ltd. Reg. 1900. Office, 104 King St., Manchester, Eng. Capital, auth., $750,000; issued, $265,075. Owns cotton mills in Chile; closed in 1915 owing to the war.

Chilian National Ammunition Co., Ltd. Reg. 1896. Office, 5 Cook St., Liverpool. Capital, auth., $225,000; issued, $174,810. Works, Valparaiso.

City of Buenos Aires Markets Co., Ltd. (Sociedad Anonima Mercado Ciudad de Buenos Aires). Reg. Buenos Aires 1899. Capital, auth. and issued, $2,000,000 paper. Poultry, meat, fruit and vegetable markets.

City of Santos (Brazil) Improvements Co., Ltd. Reg. 1880. Office, 174 Gresham House, Old Broad St., London, E. C. Capital, auth. and issued, $5,000,000. Tramways, gasworks and water supply in Santos, São Paulo.

Compania de Real del Monte y Pachuca. (Mexico). Gold and silver mining claims and agricultural lands. Over 30,000 acres. Controlled by the United States Smelting Refining and Mining Co., 120 Broadway, N. Y.

Compania General de Fosforos. Reg. Buenos Aires. Capital, auth. and issued, $5,100,000 paper ($2,235,000.) Match factories and paper mills.

Compania Metalurgica Mexicana. Inc. New Jersey 1890. Capital stock auth. and issued, $4,000,000. Smelting works at San Luis Potosi; silver and lead properties at Sierra Mojada, Coahuila; controls Alvarez Land and Timber Co., Mexican Lead Co., Mexican Mineral Railroad Co., Montezuma Lead Co., Potosi and Rio Verde Railway Co., Sombrerete Mining Co., etc. Office, 82 Beaver St., New York.

Compania Muelles y Depositos del Puerto de la Plata. Reg. in Buenos Aires and La Plata. Capital, auth. and issued, $6,400,000 gold. Pier and warehouses at La Plata.

Compania Nacional de Caseina (National Dairy Co.). Capital, auth., $500,000 paper; issued, $479,000 paper.

Compania Nacional de Transportes. (Villalonga Express Co.) Reg. Buenos Aires 1907. Capital, auth., $5,000,000 paper; issued, $2,500,000 paper. Goods and baggage transport; ship, rail and customs agents.

Costa Rica Markets Co., Ltd. Reg. 1886. Capital, auth. and issued, $300,000. Office, 9 New Broad St., London, E. C.

Cuban-American Sugar Co. Inc. New Jersey 1906. Capital, auth., $20,000,000; issued, $15,029,400. Owns 367,000 acres, 8 factories, 2 refineries, 336 miles railroads, brickyards, houses, electric light and water supply plants, etc. Office, 129 Front St., New York.

Cuban and Pan-American Express Co. Inc. New Jersey 1898. Office, 42 Broadway, New York.

Dominica Forests and Sawmills, Ltd. Reg. 1911. Office, 53, Palmerston House, Old Broad St., London, E. C. Capital, auth., $400,000; issued, $296,400. Forest lands, warehouses, limes and cocoanuts.

Droguería de la Estrella, Ltd. Capital, paid up, $2,426,100 paper. Druggists and photographic dealers.

Estates Control., Ltd. Reg. 1903 and 1911. Capital, auth. and issued, $1,250,000. Cattle, raw material, and investments in Bovril Argentine Estates and Virol, Ltd.

Fajardo Sugar Co. Inc. New Jersey 1905. Porto Rico.

Falkland Islands Co., Ltd. Inc. Royal Charter 1851. Reg. 1902. Office, 61 Gracechurch St., London, E. C. Capital, auth., $800,000; issued, $715,000. Sheep farming, importation of goods, ship repairing.

Fundicion y Talleres "La Union." Reg. Buenos Aires 1903. Capital, auth., $700,000 paper; issued, $600,000. Iron foundry and engineering works.

German-American Coffee Co. Inc. New Jersey 1903. Capital, $1,000,000; outstanding, $585,250. Owns about 43,000 acres in Chiapas, Mexico. Coffee, chocolate, rubber, lemons, vanilla, oranges.

Germania Estancia, Ltd. Reg. 1899. Office, Thames House, Queen St. Place, London, E. C. Capital, auth. and issued, $750,000. Owns the Estancia "La Germania" in the Province of Buenos Aires.

Giroux Consolidated Mines Co. Inc. Delaware 1903. Owns copper mines in the State of Sonora, Mexico. Controlled by the Consolidated Coppermines Co.

Harrods (Buenos Aires) Limited. Reg. Buenos Aires 1913. Capital, auth., 1,582,000 pounds sterling ($7,910,000). A branch or offshoot of the great department store of that name in London.

Havana Coal Co. Inc. New Jersey 1904. Capital, auth., $2,000,000. Controls Campañia Habanera de Vapores y Lanchas, Berwindvale Steamship Co., Ltd., Berwindmore Steamship Co., Ltd., and Compañia Carbonera de Veracruz.

Havana Tobacco Co.

Havana Commercial Co. Tobacco and cigars.

Henry Clay and Bock & Co., Ltd. Reg. 1888.

(The foregoing companies are controlled by the American Cigar Co.)

Introductora de Buenos Aires. Reg. 1912. Capital, auth. and issued, $1,000,000 gold. Importers and manufacturers.

Jamaica Copra and Estates Co., Ltd. Reg. 1913. Office, Winchester House, London, E. C. Capital, auth., $250,000; issued, $119,110.

La Argentina de Papel. Reg. Buenos Aires. Capital, auth. and issued, $7,000,000 paper. Paper factory.

La Co-operativa de Hacendados (Live Stock Co-operative Society). Reg. Buenos Aires 1904. Capital, auth., $2,000,000 paper; issued, $1,760,000 paper.

La Co-Operativa Nacional de Consumos. Reg. Buenos Aires 1906. Capital, auth., $2,000,000 gold, $4,000,000 paper; issued, $427,420 gold, and $3,629,120 paper. Co-operative stores in the capital and several branches in Argentina.

La Guaira (Venezuela) Harbor Corporation, Ltd. Reg. 1885. Office, 6 Broad St. Place, London, E. C. Capital, auth. and issued, $2,000,000. Concessions in perpetuity of harbor and quay at La Guaira, the port of Caracas, Venezuela.

La Martona Co. (Sociedad Anonyma La Martona). Inc. Argentina 1900. Office, Buenos Aires. Capital, auth. and issued, $1,350,000. Owns freehold estancia of 15,000 acres 30 miles from Buenos Aires, and a dairy business in that city.

La Maya Valley Land and Improvement Co. (Cuba). Inc. Maine 1905. Owns about 60,000 acres of timber and cane.

Las Cabezas Estancia Co., Ltd. Reg. 1906. Office, Finsbury Pavement House, London, E. C. Capital, auth., $1,000,000; issued, $800,250. Owns estancias in the Province of Entre Rios, Argentina.

Liebig Extract of Meat Co., Ltd. Reg. 1865. Office, Thames House, Queen St. Place, London, E. C. Capital, auth. and issued, $8,000,000. Manufacturers and shippers of South American produce. Extensive landholdings in Argentina, Colombia and Uruguay.

Lighterage Co. of Montevideo, Ltd. (Uruguay). Reg. 1901. Office, 39 Lombard St., London, E. C. Capital, authorized, $215,000; issued, $175,000. Tug owners and lightermen.

Manáos Harbour, Ltd. (Brazil). Reg. 1902. Office, 11 Adelphi Terrace, Strand, London, W. C. Capital, auth. and issued, $2,500,000. Harbor works and bonded warehouse concessions.

Manáos Improvements, Ltd. (Brazil). Reg. 1906. Office, 9 New Broad St., London, E. C. Capital, auth., $2,000,000; issued, $1,702,500. Water supply works and sewerage service.

Manbré Saccharine Co., Ltd. Reg. 1897. Capital, auth. and issued, $2,250,000. Manufacturers of brewing sugar.

Mexican-American Smelting & Refining Co., Guaymas, Sonora. Capital, auth. and issued (fully paid), $2,000,000 preferred and $6,000,000 common. General office, 42 Broadway, New York.

Mexican Cotton Estates of Tlahualilo, Ltd. Reg. 1903. Office, 119 Finsbury Pavement, London, E. C. Capital, auth. and issued, $1,250,000.

Mexican Crude Rubber Co. Inc. Michigan 1906. Capital, auth. and outstanding, $1,500,000. Factories at Cedral, Viesca, Coahuila, San Luis Potosi, Mexico. Also, 3,500 acres of rubber trees in the Federated Malay States.

Mexican Eagle Oil Co. Inc. Mexico 1908. Capital, $50,000,000 (Mexican). Holds about 800,000 acres.

Mexican Exploration and Mining Co. Controlled by the Pacific Smelting and Mining Co. (q.v.).

Mexican Gold and Silver Recovery Co., Ltd. Reg. 1899. Office, 65 London Wall, London, E. C. Capital, auth., $300,000; issued, $251,305. Acquiring and developing mining properties.

Mexican Iron and Steel Co. Inc. Arizona 1909. Office, Boston, Mass. Capital, auth., $5,000,000; outstanding, $2,500,000. Owns 200,000 acres timber land and four iron-ore deposits. Closed down 1912 owing to disturbed internal conditions.

Mexican Lead Co. Inc. New Jersey 1899. Capital, auth. and issued, $1,250,000. Controlled by the Compania Metalurgica Mexicana (q.v.).

Mexican Mahogany and Rubber Corporation, Ltd. Inc. Canada 1910. Office, 145 St. James St., Montreal. Capital, auth. and outstanding, $1,000,000.

Mexican National Packing Co., Ltd. Inc. Maine 1911. Head office, Mexico City. Capital, auth. and issued, $12,750,000. Holds government concessions for the development of the live stock and meat industries.

Mexican Petroleum Co., Ltd. Inc. Delaware 1907. Capital stock, auth., $60,000,000; issued, $49,689,000. Owns or controls about 600,000 acres of land, 30 oil-wells, tanks, storage, etc., 10 miles railroad, 8,000 head of cattle, 1,500 horses. This Company and the Pan-American Petroleum and Transport Co. between them own or control: Mexican Petroleum Co. of California (Inc. 1919); Huasteca Petroleum Co. (Inc. Maine 1907); Tamiahua Petroleum Co. (Inc. Maine 1906); Tuxpam Petroleum Co. (Inc. Maine 1906); Petroleum Transport Co. (Inc. Maine), capital stock auth. and outstanding, $3,000,000, also entire capital stock of the Mexican Marine Co. and Petroleum Carriers, Ltd.; Mexican Petroleum Corporation (Inc. Maine); capital, auth., $2,000,000. Head office, 1015 Security Building, Los Angeles, Cal.

Montezuma Lead Co. Inc. New Jersey 1899. Capital stock auth., $500,000 preferred and $2,500,000 common. Controlled by the Compania Metalurgica Mexicana (q.v.).

Municipality of Pará Improvements, Ltd. Reg. 1907 and 1909. Office, 65 Bishopsgate, London, E. C. Capital, auth., $2,000,000; issued, $1,833,365. Construction and maintenance of drainage system.

National Match Factory of Bolivia, Ltd. Reg. 1907. Office, 65 Bishopsgate, London, E. C. Capital, auth. and issued, $400,000. Exclusive right to make and sell matches in Bolivia until 1930.

National Match Factory of Venezuela, Ltd. Reg. 1905, 1909. Office, 65 Bishopsgate, London, E. C. Capital, auth., $1,100,000; issued, $1,099,835. Exclusive rights in Venezuela until 1929.

New Trinidad Lake Asphalt Co., Ltd. Reg. 1887. Office, 2 St. Helen's Place, London, E. C. Capital, auth. and issued, $2,500,000. Owns 2,600 acres freehold land and exclusive right to remove asphalt from a pitch lake until 1930.

North Brazilian Sugar Factories, Ltd. Reg. 1887. Office, 1 Gresham Buildings, Basinghall St., London, E. C. Capital, auth. and issued, $500,770. Owns factory and estates at Tiuma, in Pernambuco.

Obispo Rubber Plantation Co., Tuxtepec, Oaxaca, Mexico. Inc. New Jersey 1901. Office, 29 Broadway, New York. Capital, auth., $1,500,000; outstanding, $1,096,400.

Olca Sulphur Co., Ltd. Reg. 1910. Office, 11-12 Finsbury Square, London, E. C. Capital, auth., $1,000,000; issued, $464,535. Owns about 1,750 acres of native sulphur deposits in Bolivia. No operations were in progress in November 1914.

Pacific Smelting and Mining Co. Inc. Maine 1909, consolidating the Douglas Copper Co. (1903) and the Mexican Exploration and Mining Co. Also acquired (1910) 90 per cent of the capital of the Mexican-American Smelting and Refining Co. (q.v.).

S. Pearson & Son, Ltd. Contractors. Reg. 1897. Office, 47 Parliament St., Westminster, London. Capital, auth. and issued, $7,505,000. Concessions in Mexico, railroads and harbor construction and management till 1953.

Peruvian Cotton Manufacturing Co., Ltd. Reg. 1897. Capital, auth. and issued, $500,000.

Frances Estancia Co., Ltd. Reg. 1867. Office, 29 Exchange Chambers, Rixteth St., Liverpool. Capital, auth. and issued, $600,000. Owns horse, sheep and cattle ranches (60,000 acres) at Nueva Alemania, Uruguay.

Railway Finance and Construction Co., Ltd. Reg. 1901. Office, 55 London Wall, London, E. C. Capital, auth., $500,000; issued, $461,460. Interested in Venezuela Central Railway Co., Ltd., Mexican Union Railway, Ltd., and Central Railway of Ecuador, Ltd.

Rambla Company of Montevideo, Ltd. Reg. 1911. Office, 1 Broad St. Place, London, E. C. Capital, auth., $4,250,000; issued, $906,325. Government concessions, land reclamation. Matter of concessions in dispute owing to repudiation by Uruguayan government.

Rio de Janeiro City Improvements Co., Ltd. Reg. 1862. Office, 228 Dashwood House, London, E. C. Capital, auth., $6,250,000; issued, $5,963,875. Public works, drainage, etc.

Rio de Janeiro Flour Mills and Granaries, Ltd. Reg. 1886. Office, 48 Moorgate St., London, E. C. Capital, auth., $4,000,000; issued, $3,040,005.

Rosario Drainage Co., Ltd. (Argentina). Reg. 1897. Office, 52 Moorgate St., London, E. C. Capital, auth., $2,470,000; issued, $2,446,000. Concession to operate a drainage and sewerage system in the City of Rosario de Santa Fe, Argentina.

Salinas of Mexico, Ltd. Reg. 1906. Office, 9 New Broad St., London, E. C. Capital, auth., $1,625,000; issued, $1,406,285. Salt producing properties.

San Antonio Copper Co. Inc. Arizona 1908. Capital, auth., $2,500,000. Work suspended since 1912 owing to internal disturbances.

San Quintin Milling Co., Ltd. Reg. 1893. Office, 10 Copthall Avenue, London, E. C. Capital, auth. and issued, $100,000. Flour and other mills at St. Quintin, Lower California, Mexico.

Sansinena Frozen Meat Co. (La Compania de Carnes Congeladas). Inc. Argentina 1891. Office, 132 Calle San Martin, Buenos Aires. Capital, auth., $6,500,000 gold; issued, $4,500,000 gold. Extensive freezing establishments in Argentina and Uruguay.

Santa Cecilia Sugar Co. Inc. Maine 1904. Guantanamo, Cuba. Capital, auth., $2,500,000; issued, $1,500,000. Annual production, 26,000,000 lbs.

Santa Gertrudis Co., Ltd. Inc. 1909. Capital, auth. and issued, $7,500,000. Owns 600 acres gold and silver mines at Pachuca, Mexico. Controlled by Camp Bird, Ltd.

Santa Gertrudis Jute Mill Co., Ltd. Office, 47 Parliament St., London. Capital, auth., $1,000,000; issued, $763,700. Concession at Orizaba, near Vera Cruz, Mexico.

Santa Rosa Milling Co., Ltd. Reg. 1913. Office, 7 Gracechurch St., London, E. C. Capital, auth., $2,500,000; issued, $2,000,000. Flour milling concerns in Callao, Peru, and Concepcion, Chile.

San Toy Mining Co. Inc. Maine 1901. Chihuahua, Mexico. Capital, auth., $7,000,000. Silver, lead and iron-ore. Operations suspended since 1915 owing to internal disturbances.

South American Bank Note Co. (Compania Sud Americana de Billetes de Banco). Buenos Aires. Capital, auth., $2,000,000 paper; issued, $1,388,000 paper.

Southern Patagonia Sheep Farming Co., Ltd. Reg. 1912. Office, 29 Great St. Helen's, London, E. C. Capital, auth., $1,250,000; issued, $780,015. Owns sheep farming properties in Argentina and Chile.

South Porto Rico Sugar Co. Inc. New Jersey 1900. Capital, auth., $8,000,000. Controls the following: Ensenada Estates (Inc.) of 6,000 acres; Bernal Estate of 10,000 acres; Guanica Central of 14,000 acres; Fortuna Estates of 6,000 acres, all in Porto Rico; Central Romana (Inc.) of 35,000 acres in Dominica.

Tabasco Plantation Co. (Mexico). Inc. Delaware 1901. Office, Plymouth Building, Minneapolis, Minn. Capital, auth., $5,000,000. Owns 32,000 acres; distillery; cattle, rubber, sugar, cacao.

Tezlutlan Copper Mining and Smelting Co. States of Puebla and Oaxaca, Mexico. Office, 82 Beaver St., New York. Capital, $10,000,000. Ten miles of railroad and 17,400 acres of land.

Tierra del Fuego Development Co. (Sociedad Explotadora del Tierra del Fuego). Inc. Chile 1892. Head office, Valparaiso. Capital, auth. and issued, $9,000,000. Pastoral freehold lands in Chile and Argentina, 2,298,196 acres; leasehold, in Chile, 4,910,000 acres.

Tolteca Portland Cement Co. (La Tolteca Compania de Cemento Portland, Sociedad Anonima). Inc. Mexico 1912. No further information.

Trinidad Produce Co., Ltd. Reg. 1912. Capital, auth., $250,000; issued, $200,000. Owns the Carenage Estate (about 650 acres, freehold) near Port of Spain, Trinidad, including mineral rights.

Tucuman Sugar Co. (Compania Azucarera Tucumana Sociedad Anonima). Formed 1895. Head office, Buenos Aires. Capital, auth., $5,000,000 gold; issued, $4,000,000. Owns five sugar estates and factories (118,384 acres) in Argentina.

Tuinucu Sugar Co. Cuba. Inc. New York 1891. Capital, auth., $500,000. Owns 5,500 acres.

United Fruit Co. Inc. New Jersey 1899. Office, 131 State St., Boston. Capital, auth., $75,000,000; issued, $36,594,300. Growers, exporters and distributors of tropical fruits and products; land in Central America and West Indies; railroads, 964 miles; tramways, 545 miles.

Valparaiso (Chile) Drainage Co., Ltd. Reg. 1905. Office, 57½ Old Broad St., London, E. C. Capital, auth. and issued, $800,000. Exclusive concessions for laying sewers and drains in Valparaiso.

## INSURANCE COMPANIES

### ARGENTINA

Equitable Life of New York; New York Life; Alliance Assurance Co., Ltd.; Anglo-Argentine; Atlas Assurance Co., Ltd.; Royal Exchange Assurance Co.; Royal Insurance Co.; Phœnix Assurance Co., Ltd.; North British and Mercantile Insurance Co., Ltd.; Norwich Union Fire Insurance Society; "Royal National"; Scottish Union and National Insurance; Sun Insurance; Union Assurance Society, Ltd.; Ayuda Mutua; Commercio; Imperial; Franco-Argentina; Inmobilaria; Prevision Popular; Providencia; La Protectora del Hogar; La Prudencial; La Bahia Blanca; La Nacion; La Mutua.

### BAHAMAS

New York Life; Equitable of New York; North American Life; General Accident, Fire and Life; Imperial Life of Canada; Sun Life of Canada; Canada Life

## BARBADOS

Barbados Mutual Life Association; Standard Life Assurance Co. of Scotland; The Gresham; Royal of England; North American Life of Canada; Manufacturers Life Association; Palatine Life Assurance Co.; Sun Life.

## BERMUDA

New York Life Insurance Co.; Manufacturers Life (of Canada); North American Life (Toronto); Royal Fire and Life (Liverpool); Sun Life of Canada; Federal Life Assurance of Hamilton (Canada); Liverpool and London and Globe; Canadian Railway Accident, Ottawa; Standard Life of Edinburgh; Standard Life, Canada; Mutual Life, New York.

## BOLIVIA

New York Life; La Sud America of Brazil; La Previsora of Argentina; La Urbana of Peru; Internacional; Rimac.

## BRAZIL

New York Life; Equitable of New York (financial agent only); Alliança de Bahia (marine and fire); Brazil Fire and Marine Insurance Co.; Compagnie d'Assurances Generales Contre l'Incendie; Equitativa dos Estados Unidos do Brazil; Sul America; Confiança Seguros Maritimos E Terrestres; Iris (marine and fire); Lloyd Americano Fire and Marine Insurance Co.; Paulista de Seguros; Phenix Pernambucano; Seguros Maritimos E Terrestres "Lealdade;" Seguros Maritimos E Terrestres "Phenix de Porto Alegre;" Providencia do Sul; Sociedad de Seguros Maritimos E Terrestres Porto Alegrense; Seguros Maranhaense; Crusiro do Sul.

## CANAL ZONE

Home Life Insurance Co.; Pan-American Life Insurance Co.; Manufacturers Life Insurance Co.; Illinois Surety Co.; National Surety Co.; Maryland Casualty Co.; American Surety Co.; United States Fidelity and Guaranty Co.

## CHILE

New York Life; Equitable of New York; Sun Life of Canada; Sud America; Norwich Union; Liverpool and London; Phœnix Assurance Co., Ltd.; La Franco-Chilena; North British and Mercantile; Boka de Comercio; La Alianza Chilena; La Española; Americana; Salvadora; London Assurance Corporation; Atlas, Alliance and Guardian Assurance Companies.

## COLOMBIA

Equitable of New York and Sun Life of Canada (agencies); Compañia de Seguros de Vida; Compañia General de Seguros (fire, life and transport).

## COSTA RICA

Equitable of New York; New York Life; Guardian Life; North American Life. (These four companies are represented by financial agents who do not, however,

write any new business.) Pan American Life of New Orleans. The following Canadian companies operate in San José: Confederation; Imperial Life; Manufacturers; Sun Life. Assessment business is carried on by the Sociedad Nacional de Seguros de Vida and the Sociedad de Economias de Guadeloupe.

## CUBA

Equitable of New York; Mutual of New York; New York Life; Sun Life of Montreal; Standard Life Insurance Co. All have headquarters in Havana.

## DOMINICAN REPUBLIC

New York Life; Sun Life of Canada.

## ECUADOR

Compania Guayaquil de Seguros.

## GUADELOUPE

Equitable of New York and New York Life; London Assurance Corporation; Standard Life, London; Mutuelle de France et Colonies; Paris La Co-operation; Manufacturers, Toronto.

## GUATEMALA

Pan-American of New Orleans; Sun Life of Canada; La Imperial del Canada; Confederation of Canada. The Equitable of New York maintains a financial agent, but writes no new business. The New York Life has an agency with the Banco Americano de Guatemala.

## HAITI

New York Life; Standard of England.

## HONDURAS

The only companies licensed to do business in the republic are the New York Life and the Imperial Life of Canada.

## HONDURAS, BRITISH

Equitable of New York; New York Life; agencies. Norwich Union of England; Sun Life of Canada; Law Union and Crown; Manufacturers of Canada; Pan-American of New Orleans; North American of Toronto; North British and Mercantile; Standard Life Assurance, Edinburgh.

## JAMAICA

Barbados Mutual; Jamaica Mutual; Sun of Canada; Confederation Life; Canada Life; London Guarantee and Accident Co., Ltd.; London Assurance; Dominion of Canada Guarantee and Accident Insurance Co.; North American, Royal; Manufacturers.

## MEXICO

Equitable of New York; New York Life; Mutual Life of New York; Germania Life; Confederation Life of Canada; Sun of Canada. William B. Woodrow & Co. (health, accident, boiler and plate glass insurance); also represent the Maryland Casualty Co. of Baltimore. Accident and health insurance is also written by the North American of Chicago and the London Guarantee and Accident Co. Native concerns are La Latino-Americana; Anglo-Mexicana (1897); La Mexicana of Mexico City (1888); La Nacional of Mexico City (1901); Mutualista; Mexicana contra Riesgos Y Accidentes.

## NICARAGUA

Equitable of New York; Pan-American Life of New Orleans; New York Life; Sun Life of Canada; Manufacturers; Imperial; Great Northern of London.

## PANAMA

Home Life, New York; Pan-American of New Orleans; Manufacturers, Toronto; American Surety, New York; Illinois Surety, Chicago; Maryland Casualty, Baltimore; United States Fidelity and Guaranty, Baltimore.

## PARAGUAY

La Paraguaya Sociedad de Seguros and La Nacional Sociedad de Seguros, both native companies, transact life, accident, fire and marine business.

## PERU

La Previsora of Buenos Aires has branches in Callao and Lima. La Sud America of Rio de Janeiro and the Sun Life also have branches in both cities. Rimac Insurance Co. and the Italia Fire and Marine Insurance Co. are both registered at Lima.

## PORTO RICO

New York Life; Union Central Life, Cincinnati, O.; American Surety Co.; Fidelity and Deposit Co.; National Surety Co.; Employers Liability Assurance Corporation, Ltd., London; and the following Canadian companies: Manufacturers; Temperance and General; Sun Life.

## SALVADOR

Pan-American Life of New Orleans; Confederation Life and Imperial Life, both of Canada.

## ST. THOMAS

Equitable of New York; New York Life; General Life of the Netherlands; Copenhagen Life; Standard Life; Manufacturers Life and Sun Life of Canada.

## URUGUAY

La Franco-Argentina; La Mutua; La Previsora; Banco de Seguro del Estado; La Providencia; La Urugnaya; Standard Life; Liverpool, London and Globe; Guardian; North British and Mercantile; British and Foreign Maritime; Sun Fire Office.

## VENEZUELA

Only one life insurance company operates in the republic, Compania Nacional Anonima de Seguros "La Previsora."

# The Metric System

THE metric system or standard is obligatory at present in Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Guatemala, Honduras, Mexico, Nicaragua, Peru, Salvador, and Uruguay, and is optional in Bolivia, Paraguay, and Venezuela. Its employment is becoming more and more general in the Latin American countries. To such an extent is this true, that, as Mr. William C. Wells writes (in the *Bulletin* of the Pan American Union for January 1917), one will indeed often hear "the old words"—the old names for weights and measures—"but almost always with a meaning adapted to the new scale." Of course this does not apply to the unprogressive regions of the interior. There the old names are retained with their traditional signification. But wherever foreign commerce gains ground the metric system establishes itself firmly.

Recent experience has shown that many of the manufacturers can make the change without undue difficulty. In using the metric system to promote export trade with metric countries, common sense should take the practical turn of deciding how far its use is profitable. For example, the present modes of use of the metric system in export trade may be grouped as follows: (*a*) Complete use of the metric system in designing, making, and selling; (*b*) price-listing in metric equivalents—to enable the foreign buyer to understand quantities and prices; (*c*) packing products in units of metric size; (*d*) labeling metric equivalents on the unit packages the contents of which may be put up in customary units; (*e*) stenciling shipping cases for export with the quantities in metric units to meet the customs requirements in metric countries; filling metric orders with the regular-sized packages or products, merely billing in metric terms to enable the buyer to check price." All of the above-mentioned modes will be found in use among progressive exporters.

The Revised Statutes of the United States, sec. 3569, 1866, provide that it shall be lawful throughout the United States of America to employ the weights and measures of the metric system. The use of this system in the Philippines was "continued" by tariff law of 1909; it was "recognized and established" in Porto Rico in 1913. See following page for Synopsis of Metric System and Equivalents.

## Synopsis of Metric System and Equivalents

The fundamental unit of the metric system is the meter, which is the unit of length and equivalent to 39.37 inches. The three principal units are the meter, the unit of length; the liter, the unit of capacity; and the gram, the unit of weight. Multiples of these are obtained by prefixing the Greek words: deka (10), hekto (100), and kilo (1,000). Divisions are obtained by prefixing the Latin words: desi (1-10), centi (1-100), and milli (1-1,000). Abbreviations of the multiples begin with a capital letter, and of the divisions with a small letter, as in the following tables:

### MEASURES OF LENGTH

10 millimeters (mm) = 1 centimeter (cm).
10 centimeters = 1 decimeter (dm).
10 decimeters = 1 meter (m).

10 meters = 1 dekameter (Dm).
10 dekameters = 1 hektometer (Hm).
10 hektometers = 1 kilometer (Km).

### MEASURES OF SURFACE (NOT LAND)

100 sq. millimeters ($mm^2$) = 1 sq. centimeter ($cm^2$).
100 sq. centimeters = 1 sq. decimeter ($dm^2$).

100 sq. decimeters = 1 sq. meter ($m^2$).

### MEASURES OF VOLUME

1,000 cu. millimeters ($mm^3$) = 1 cu. centimeter ($cm^3$).
1,000 cu. centimeters = 1 cu. decimeter ($dm^3$).

1,000 cu. decimeters = 1 cu. meter ($m^3$).

### MEASURES OF CAPACITY

10 milliliters (ml) = 1 centiliter (cl).
10 centiliters = 1 deciliter (dl).
10 deciliters = 1 liter (l).

10 liters = 1 dekaliter (Dl).
10 dekaliters = 1 hektoliter (Hl).
10 hektoliters = 1 kiloliter (Kl).

NOTE.—The liter is equal to the volume occupied by 1 cubic decimeter.

### MEASURES OF WEIGHT

10 milligrams (mg) = 1 centigram (cg).
10 centigrams = 1 decigram (dg).
10 decigrams = 1 gram (g).
10 grams = 1 dekagram (Dg).

10 dekagrams = 1 hektogram (Hg).
10 hektograms = 1 kilogram (Kg).
1,000 kilograms = 1 ton (T).

NOTE.—The gram is the weight of 1 cubic centimeter of pure distilled water at a temperature of 39.2° F.; the kilogram is the weight of 1 liter of water; the ton is the weight of 1 cubic meter of water.

## Metric Data Tables

### MEASURES OF LENGTH

| | | | | | |
|---|---|---|---|---|---|
| Myriameter | = 10,000 meters | = 6.2137 miles. | Meter | = 1 meter | = 39.37 inches |
| Kilometer | = 1,000 meters | = 0.62137 m. or 3,280 ft. 10 in. | Decimeter | = 1 of a meter | = 3.937 inches |
| | | | Centimeter | = .01 of a meter | = 0.3937 inch. |
| Hektometer | = 100 meters | = 328 ft. and 1 inch | Millimeter | = .001 of a meter | = 0.0394 inch. |
| Dekameter | = 10 meters | = 393.7 inches. | | | |

### MEASURES OF SURFACE

| | | | |
|---|---|---|---|
| Hectare | = 10,000 sq. meters | = 2.471 acres. | Centare = 1 square meter = 1,550 square inches. |
| Are | = 100 sq. meters | = 119.6 sq. yards. | |

### MEASURES OF CAPACITY

| Name | No. liters | Cubic measure | Wine measure |
|---|---|---|---|
| Kiloliter | = 1,000 | = cubic meter | = 1.308 cu. yds. |
| Hektoliter | = 100 | = 1 cu. meter | = 2 bu. 3.35 pks. |
| Dekaliter | = 10 | = 10 cu. decim. | = 9.08 quarts. |
| Liter | = 1 | = 1 cu. decim. | = 0.908 quart. |
| Deciliter | = .1 | = 1 cu. decim. | = 6.1022 cu. ins. |
| Centiliter | = .01 | = 10 cu. centim. | = 0.6102 cu. in. |
| Milliliter | = .001 | = 1 cu. centim. | = 0.061 cu. in. |

| Name | No. liters | Cubic measure | Wine measure |
|---|---|---|---|
| Kiloliter | = 1,000 | = 1 cu. meter | = 264.17 gals. |
| Hektoliter | = 100 | = 1 cu. meter | = 26.417 gals. |
| Dekaliter | = 10 | = 10 cu. decim. | = 2.6417 gals. |
| Liter | = 1 | = 1 cu. decim. | = 1.0567 quarts. |
| Deciliter | = .1 | = 1 cu. decim. | = 0.845 gill. |
| Centiliter | = .01 | = 10 cu. centim. | = 0.388 fluid oz. |
| Milliliter | = .001 | = 1 cu. centim. | = 0.27 fluid dr. |

### WEIGHTS

| Name | No. grams | Avoirdupois weight |
|---|---|---|
| Metier or tonpeau | = 1,000,000 | = 2,204.6 pounds. |
| Quintal | = 100,000 | = 220.46 pounds. |
| Myriagram | = 10,000 | = 22.046 pounds. |
| Kilogram or kilo | = 1,000 | = 2.2046 pounds. |
| Hectogram | = 100 | = 3.5274 ounces. |

| Name | No. grams | Avoirdupois weight |
|---|---|---|
| Dekagram | = 10 | = 0.3527 ounce. |
| Gram | = 1 | = 15.432 grains. |
| Decigram | = .1 | = 1.5432 grains. |
| Centigram | = .01 | = 0.1543 grains. |
| Milligram | = .001 | = 0.0154 grain. |

# Postal Rates and Regulations and Parcel-Post Facilities Between the United States and the Countries of Latin America

A summary of postal regulations, including the Postal Union rates, parcel-post regulations, and a list of the Latin American countries for which international reply coupons are obtainable, is given below. For each country it is stated in the appended table whether Postal Union rates or other rates of postage are applicable, and whether there is a parcel post with the United States.

Domestic postage rates apply to mail matter for Cuba, Mexico, and the Republic of Panama with the following exceptions: (1) Printed matter, samples, and commercial papers may be sent to these countries subject to the rates, weight limit, and other conditions applicable to similar articles in Postal Union mails (see Postal Union rates below); (2) articles other than letters in their usual and ordinary form are excluded from the mails unless they are so wrapped that their contents can be easily examined by postmasters and customs officers.

## Postal Union Rates

Articles for or from foreign countries (except Cuba, Mexico, and the Republic of Panama) are not designated as "first class matter," "second-class matter," etc., but are classified as "letters," "post cards," "printed matter," "commercial papers," and "samples of merchandise." The rates and conditions for these several classes are as follows:

*Letters and Sealed Matter:* Five cents for the first ounce or fraction of an ounce, and 3 cents for each additional ounce or fraction thereof.

*Post Cards:* Single, 2 cents; double (return or reply), 4 cents.

*Printed Matter:* One cent for each 2 ounces or fraction of 2 ounces. Printed matter includes newspapers and periodical works, printed books stitched or bound, pamphlets, sheets of music, visiting cards, address cards, proofs of printing with or without the manuscripts relating thereto, papers with raised points for the use of the blind, engravings, photographs, and albums containing

photographs, pictures, drawings, plans, maps, catalogues, prospectuses, announcements and notices of various kinds, whether printed, engraved, lithographed, or autographed, and in general all impressions or reproductions obtained upon paper, parchment, or cardboard by means of printing, engraving, lithographing, and autographing, or any other mechanical process easy to recognize, except the copying press and the typewriter. Printed matter must be wrapped so that the contents may be easily examined without damaging the cover. The maximum weight of any package is 2 kilos (4 pounds 6 ounces), except "second class matter" and single volumes of printed books for Cuba, Mexico, and the Republic of Panama, and single volumes of printed books for Salvador. The maximum size is 45 centimeters (18 inches) in any one direction, except that rolls of printed matter may be 75 centimeters (30 inches) in length if not more than 10 centimeters (4 inches) in diameter.

*Commercial Papers:* Five cents for the first 10 ounces or less and 1 cent for each additional 2 ounces or fraction of 2 ounces. Commercial papers include all instruments or documents written or drawn wholly or partly by hand, which have not the character of an actual and personal correspondence, such as old letters and postal cards which have fulfilled their original object, papers of legal procedure, deeds of all kinds drawn up by public functionaries, waybills, or bills of lading, invoices, the various documents of insurance companies, copies of or extracts from deeds under private signature, written on stamped or unstamped paper, scores or sheets of manuscript music, manuscript for publication, forwarded separately, original and corrected tasks of pupils, excluding all comment on the work, etc. Limit of size and weight same as for printed matter.

*Samples of Merchandise*: Two cents for the first 4 ounces or less and 1 cent for each additional 2 ounces or fraction of 2 ounces. Samples must be placed in bags, boxes, or removable envelopes in such a manner as to admit of easy inspection. They must not have any saleable value nor bear any manuscript other than the name or the social position of the sender, the address of the addressee, a manufacturer's or trade mark, numbers, prices, and indications relating to the weight, size, and quantity to be disposed of, and words which are necessary to precisely indicate the origin and nature of the merchandise. Packages of samples must not exceed 350 grams (12 ozs.) in weight, or the following dimensions: 30 centimeters (12 inches) in length, 20 centimeters (8

inches) in breadth, and 10 centimeters (4 inches) in depth; except that when in the form of a roll, a package may measure not to exceed 30 cm. (12 inches) in length, and 15 cm. (6 inches) in diameter. Articles sent for sale, in execution of an order, or as gifts, however small the quantity may be, are not admissible at the sample rate and conditions.

*Registration Fee:* Ten cents in addition to regular postage.

### Parcel Post

The postage rate on packages sent by parcel post is 12 cents per pound or fraction thereof. Every parcel must be securely and substantially packed but in such a way that it can be opened without damaging its cover, in order that its contents may be easily examined by postmasters and customs officers. Except for packages to Colombia and Mexico the greatest length permissible is 3½ feet, and the greatest length and girth combined, 6 feet. A parcel not more than 3½ feet in length may measure as much as 2½ feet in girth, or around its thickest part. A shorter parcel may be thicker. Parcels for Colombia and Mexico must not exceed 2 feet in length, no matter how small the girth may be, and the girth must not exceed 4 feet, no matter how short the parcel may be. The maximum weight is 11 pounds, except to Mexico (see under MEXICO in subjoined table). Parcels can be registered. The limit of value, if any, is indicated in the table below.

### International Reply Coupons

Sending postage for replies when starting correspondence with foreign firms is a little courtesy that often has results out of proportion to its seeming importance, and is a practice commonly followed by manufacturers and exporters of other countries. United States stamps *can not be used* for this purpose, but there are issued international reply coupons which can be sent to foreign correspondents. These coupons are of a denomination of 6 cents each and are exchanged by the foreign correspondent for a postage stamp of his own country equal in value to a 5-cent United States postage stamp. These coupons may be obtained from postmasters in any quantity desired. The postmark of the selling office must be stamped on them, otherwise foreign postal administrations will refuse to redeem them. The Latin American countries in which the reply coupons are valid are: Argentina, Brazil, Chile, Costa Rica, Cuba, Dominican Republic, French Guiana, Haiti, Honduras, Mexico, and Salvador.

TABLE OF POSTAL RATES OBTAINING IN LATIN AMERICA AND COUNTRIES HAVING A PARCEL POST CONVENTION WITH THE UNITED STATES

| Countries | Postal rates | Parcel post | Remarks |
|---|---|---|---|
| Argentina | Postal Union rates | No parcel post | |
| Bolivia | " " " | Parcel post | |
| Brazil | " " " | " " | |
| Chile | " " " | " " | |
| Colombia | " " " | " " | Parcels not to exceed 2 feet in length and greatest girth 4 feet. |
| Costa Rica | " " " | " " | |
| Cuba | See general article above | No parcel post | Postal Union rates on printed matter, samples, and commercial papers. Other articles are subject to same postage rates and conditions as applied to these articles in the United States. |
| Dominican Republic | Postal Union rates | No parcel post | |
| Ecuador | " " " | Parcel post | Limit of value $50. |
| Guatemala | " " " | " " | |
| Haiti | " " " | " " | |
| Honduras | " " " | " " | |
| Mexico | See general article above | " " | Weight limit of packages, 4 pounds 6 ounces, except to offices specified in the Postal Guide, which list includes the principal Mexican cities; maximum weight to these is 11 pounds. See remarks under Cuba. |
| Nicaragua | Postal Union rates | " " | |
| Panama | See general article above | " " | Parcels may be registered. See remarks under Cuba. |
| Paraguay | Postal Union rates | No parcel post | |
| Peru | " " " | Parcel post | |
| Salvador | " " " | " " | |
| Uruguay | " " " | " " | Parcels cannot be registered. |
| Venezuela | " " " | " " | |

# CABLE RATES FROM NEW YORK TO THE COUNTRIES OF LATIN AMERICA

| Countries | Rate per word via | | Countries | Rate per word via | |
|---|---|---|---|---|---|
| | Western Union | Commercial Co. | | Western Union | Commercial Co. |
| Argentina | $0 65 | $0 65 | Haiti —continued | | |
| Bolivia: | | | Port-au-Prince | $1 80 | |
| Riberalta | .65 | 1 00 | Other offices | 1 80 | |
| All other offices | .65 | 65 | Honduras | 55 | |
| Brazil: | | | Mexico | Rates vary, according to locality, from $0.70 to $1.75 for 10 words or less (address and one signature free), and from 5 to 12 cents for each word over 10 | |
| Manaos | 1 44 | | | | |
| Para | 85 | | | | |
| Pernambuco | 70 | 70 | | | |
| Rio de Janeiro | 85 | 85 | | | |
| Rio Grande do Sul | 85 | 85 | | | |
| Santos | 85 | 85 | | | |
| Acre District: | | | | | |
| Via Belem-Radio | | 1 34 | | | |
| Via Manaos-Radio | | 1 73 | Nicaragua | | |
| Amazon Stations: | | | San Juan del Sur | $0 90 | |
| First zone | | 1 14 | Other offices | 55 | |
| Second zone | | 1 44 | Panama | 60 | $0 60 |
| Colombia | | | Paraguay | 65 | 65 |
| Chile | 65 | 65 | Peru: | | |
| Costa Rica | 55 | | Iquitos | 1 15 | 85 |
| Cuba: | | | Ilave | 1 15 | 85 |
| Havana | 15 | 15 | Mariona | 1 15 | 85 |
| Other offices | 20 | 20 | Oroliaya | 1 15 | 85 |
| Dominican Republic | 36 | 36 | Puerto Bermudez | | 85 |
| Ecuador | 65 | | Putumayo | | 85 |
| Via Azores-Valparaiso | | 1 30 | Reyaena | 1 15 | 85 |
| Guatemala: | | | Other offices | 65 | 65 |
| San José | 50 | | Salvador: | | |
| Other offices | 55 | | La Libertad | 50 | |
| Haiti: | | | Other offices | 55 | |
| Cape Haitien | 80 | | | 65 | 65 |
| Mole St. Nicholas | 80 | | Uruguay | 1 00 | |
| | | | Venezuela | | |

The Western Union Company operates supplementary cable services, known as Cable Letters and Week-end Letters, in which a very low minimum charge is made for a given number of words, and the messages are accepted subject to deferred delivery at designated hours. The Cable Letter service is in operation with Cuba, the tariff between New York and Havana being 45 cents for 13 words, including the prefix, and 5 cents per word in excess of 13.

The Week-end Letter service is in operation with the Argentine Republic, Chile and Peru, the tariff from New York to these countries being $4.85 for 25 words, including the prefix, and 20 cents for each excess word. These South American Week-end Letters are delivered on Tuesday morning.

The Commercial Cable Company accepts Deferred Plain Language Cablegrams at one-half the ordinary rates to Argentina, Bolivia, Brazil, Chile, Peru (except "wireless" stations), and Uruguay. Such cablegrams are delayed only in transmission until ranking cablegrams have been despatched and not more than 24 hours. They must be written in French, or in the language of the country of origin, or in that of the country of destination.

## DIFFERENCES IN TIME BETWEEN NEW YORK, THE NEW ENGLAND STATES, AND THE COUNTRIES OF LATIN AMERICA

| Country | | Hrs. | Min. | Country | | Hrs. | Min. |
|---|---|---|---|---|---|---|---|
| Argentina | Add | | 44 | Haiti | Add | | 16 |
| Bolivia | Add | | 33 | Honduras | Deduct | 1 | |
| Brazil | Add | 2 | 7 | Mexico | Deduct | 1 | 36 |
| Chile | Add | | 17 | Nicaragua | Deduct | | 45 |
| Colombia | Add | | 3 | Panama | Deduct | | 19 |
| Costa Rica | Deduct | | 33 | Paraguay | Add | | 41 |
| Cuba | Deduct | | 29 | Peru | Deduct | | 9 |
| Dominican Republic | Add | | 16 | Salvador | Deduct | | 36 |
| Ecuador | Deduct | | 14 | Uruguay | Add | 1 | 15 |
| Guatemala | Deduct | 1 | 10 | Venezuela | Add | | 42 |

# Newspapers and Periodicals

The leading newspapers and periodicals of Latin America, their place of publication, language, circulation and general advertising rates are given below. Nearly all the daily papers contain information of a general character, sufficient space being allotted to markets, commerce, shipping, industrial developments, and municipal improvements under way or contemplated, and reach those interested in commercial, industrial, and agricultural development. Many also are circulated far beyond their locality. The trade journals in general are circulated throughout the entire country in which they are published and often in one or several of the neighboring countries.

## ARGENTINA

*La Argentina*, Buenos Aires, Daily, Sp., 130–140,000, $3.24 per inch.
*La Prensa*, Buenos Aires, Daily, Sp., 140,000, $3.77 per inch.
*La Razón*, Buenos Aires, Daily, Sp., 80,000, $2.16 per inch.
*La Nación*, Buenos Aires, Daily, Sp., 70,000, $3.24 per inch.
*El Diario Español*, Buenos Aires, Daily, Sp., 55–60,000, $1.73 per inch.
*La Patria Degli Italiani*, Buenos Aires, Daily, It., 30–35,000, $1.08 per inch.
*El Diario*, Buenos Aires, Daily, Sp., 35–40,000, Rates according to position.
*Deutsche La Plata Zeitung*, Buenos Aires, Daily, Ger., 18,000, 70¢ per inch.
*Le Courrier de la Plata*, Buenos Aires, Daily, Fr., 10–12,000, $2.70 per inch.
*The Standard*, Buenos Aires, Weekly, Eng., 5,000; Daily, Eng., 15,000, $1.95 per inch.
*Buenos Aires Herald*, Buenos Aires, Daily, Eng., 5,000, 90¢ per inch.
*La Campana Agraria*, Buenos Aires, Semi-monthly, Sp., 10,000, $50 per page per month.
*El Auto Argentino*, Buenos Aires, Monthly, Sp., 6,000, $64 to $76 per page.
*Modas Selectas*, Buenos Aires, Monthly, Sp., 8,500, $2.16 per inch.
*La Nueva*, Bahía Blanca, Daily, Sp., 7,000, $10.80 per inch 1st page; $5.38 per inch 5th–16th pages; $2.16 per inch for all other pages.
*La Capital*, Rosario, Daily, Sp., 20,000, 50¢ to $1.10 per inch.
*Los Principios*, Córdoba, Daily, Sp., 6,000, 32¢ per inch for one, $1.15 per inch for 15 insertions.

## BOLIVIA

*El Diario*, La Paz, Daily (ex. Monday), Sp. 3,500, about 8¢ per inch and $24 for 1 year.
*El Tiempo*, La Paz, Daily, (ex. Monday), Sp., 3,500, about $19.50 per ¼ col.
*El Norte*, La Paz, Daily, (ex. Monday), Sp., 3,500, $200 per page per month, $52 per quarter page.

## BRAZIL

*Jornal do Commercio*, Rio De Janeiro, twice daily, Port., morning 25,000, evening 5,000; 12¢ per line.

*Jornal do Brazil*, Rio de Janeiro, Daily, Port., 45,000, 17¢ per line.

*O Paiz*, Rio de Janeiro, Daily, Port., 10,000, 17 to 66¢ per line.

*Correio da Manha*, Rio de Janeiro, Daily, Port., 50,000, 18¢ to $1.65 per line.

*Diario Official*, Rio de Janeiro, Daily, Port., 12,000, 10¢ per line.

*Revista Da Semana*, Rio de Janeiro, Weekly, Port., 45,000, $40 per page.

*Revista de Automoveis*, Rio de Janeiro, Monthly, Port., 5,000, $50 per page.

*O Economista Brazileiro*, Rio de Janeiro, Weekly, Port., 5,000, $20 per page.

*Illustracão Brazileiro*, Rio de Janeiro, Bi-weekly, Port., 20,000, $98 per page.

*Commercial de Rio*, Rio de Janeiro, Weekly, Port., 5,000, $49 per page.

*A Engenharia*, Rio de Janeiro, Weekly, Port., 8,000, $27 per page.

*Jornal de Noticias*, Bahia, Daily, Port., 5–6,000, $1.13 per inch (double col.).

*Diario de Noticias*, Bahia, Daily, Port., 7–8,000, $1.13 per inch (double col.).

*Folka do Norte*, Pará, Daily, Port., 10,000, 14¢ per inch.

*Jornal do Commercio*, Manaos, Daily, Port., 3,000, no fixed rates.

*A Provincia*, Pernambuco, Daily, Port., 4,500, about 9¢ per line on 1st page, 4½¢ on 2d page and 3¢ per line on other pages.

*Estado de São Paulo*, São Paulo, Daily, Port., 25,000, 50¢ per inch.

*Correio Paulistano*, São Paulo, Daily, Port., 8,000, 25¢ per inch.

## CHILE

*El Sur*, Concepcion, Daily, Sp., 13,000, 12¢ per inch, $1 per inch for best position.

*El Tarapacá*, Iquique, Daily, Sp., 8,000, 10¢ to 20¢ per inch.

*La Patria*, Iquique, Daily, Sp., 6,000, 3d page for 1 month $2 per inch; 1st and 4th pages, $1.50.

*El Chile Austral*, Punta Arenas, Daily, Sp., first page, single col., per annum $65 per 4 in., double col., $73; other rates on inside pages.

*El Mercurio*, Valparaiso, Daily, Sp., 21,500, 32¢ per insertion without position up to $1.25 for best position.

*La Union*, Valparaiso, Daily, Sp., 18,000, 75¢ per inch.

*La Union*, Santiago, Daily, Sp., 25,000, 42¢ to 53¢ per inch under 400 inches; 32¢ to 37¢ over 400 inches.

*El Diario Ilustrado*, Santiago, Daily, Sp., 20,000, 40¢ per inch under 500 inches.

*El Mercurio*, Santiago, Daily, Sp., 40,000, 88¢ per inch on 2d, 4th and 6th pages.

## COLOMBIA

*El Nuevo Tiempo*, Bogotá, Daily, Sp., 4–5,000, 25¢ per inch.

*La Gaceta Republicana*, Bogotá, Daily, Sp., 4–5,000, 20¢ per inch.

*El Liberal*, Bogotá, Daily, Sp., 4,000, 25¢ per inch.

*El Republicano*, Bogotá, Daily, Sp., 3,000, 25¢ per inch.

*El Porvenir*, Cartagena, Daily, Sp., 2–3,000, 30¢ per inch for first insertion; 10¢ for subsequent insertions.

## COSTA RICA

*El Tiempo*, Port Limon, Tri-weekly, Sp. and Eng., 4,000, 10¢ per inch.

*El Heraldo*, Port Limon, Weekly, Sp., 2,000, 8¢ per inch.

*La Información*, San José, Daily, Sp., 7,000, 25¢ per inch.

*La Repubblica*, San José, Daily, Sp., 4,000, 20¢ per inch.

## CUBA

*El Comercio*, Cienfuegos, Daily, Sp., 2,500, less than 12 insertions 25¢ per inch 1 to 5 ins.; 10¢ per inch 6 to 20 ins.

*El Mundo*, Habana, Daily, Sp., 40¢ per inch.

*La Prensa*, Habana, Daily, Sp., 30¢ per inch.

*La Lucha*, Habana, Daily, Sp., 40¢ per inch.

*La Discusion*, Habana, Daily, Sp., 40¢ per inch.

*El Commercio*, Habana, Daily, Sp., 25¢ per inch.

*Havana Post*, Habana, Daily, Eng., 30¢ per inch.

*Havana Telegraph*, Habana, Sunday, Eng., 30¢ per inch.

*Cuba News*, Habana, Weekly, Eng., $1 per inch.

*Boletin Oficial de la Camara de Comercio*, Habana, Monthly, Sp., $30 per page, and pro rata.

*El Financiero*, Habana, Tri-monthly, Sp., $20 per page, and pro rata.

*La Independencia*, Santiago, Daily, Sp., 2,000, 5¢ per inch; $1 per month.

## DOMINICAN REPUBLIC

*Listin Diario*, Santo Domingo, Daily, Sp., 3,500, 10¢ to 20¢ per inch.

*El Tiempo*, Santo Domingo, Daily, Sp., 2,000, 1 page $540 per year; ½ page $145; 1 page, 3 mos., $145; ¼ page, $50.

*El Porvenir*, Puerto Plata, Weekly, Sp., 1,300, 20¢ per inch and $2 per year.

*Ecos del Norte*, Puerto Plata, Daily, Sp., 1,000, 5¢ to 7¢ per inch.

## ECUADOR

*El Grito del Pueblo*, Guayaquil, Sp., 5,000, 58¢ per inch.

*El Telegrafo*, Guayaquil, Daily, Sp., 6,000, 15¢ to 45¢ per inch for 12 insertions.

*El Tiempo*, Guayaquil, Daily, Sp., 9,000, 30¢ to 64¢ per inch.

*Comercio Ecuatoriano*, Guayaquil, Monthly, Sp., 1,500, $22 per page, and pro rata per insertion.

*El Comercio*, Quito, Daily, Sp., 3,000, about 30¢ per inch or $24 per column.

*La Prensa*, Quito, Daily, Sp., 3,000, $19.20 per column, $9.60 per half column.

## HAITI

*Le Matin*, Port au Prince, Daily, Fr., 2,400, rates according to number of insertions, size, etc.

*Le Nouvelliste*, Port au Prince, Daily, Fr., 3,000, rates according to number of insertions, size, etc.

## HONDURAS

*Pro-Patria*, Ceiba, Weekly, Sp., 1,000, 12½¢ per inch.

*El Progreso*, Puerto Cortes, Weekly, Sp., 2,000, 20¢ per inch and $48 per col. of 15 inches per year.

*El Centro Americano*, Puerto Cortes, Weekly, Sp., 2,000, 20¢ per inch and $48 per col. of 15 inches per year.

*El Nuevo Tiempo*, Tegucigalpa, Daily, Sp., 3,000, 8¢ per inch.

## MEXICO

*Mexican Herald*, Mexico City, Daily, Eng., 10,000, 3¢ per agate line.

*El Imparcial*, Mexico City, Daily, Sp., 90,000, $1.40 per inch.

*El Diario*, Mexico City, Daily, Sp., 48,000, 84¢ per inch.

*Mexican Financier*, Mexico City, Weekly, Eng., 3,000, $5 per inch.

*Mexico Mining Journal*, Mexico City, Monthly, Eng. and Sp., 5,000, $2.50 per inch.

*La Prensa*, Monterey, Daily, Sp., 6,000, $2.50 per inch per month, 2d or 3d page.

*La Revista Peninsular*, Merida, Daily, Sp., 7,000, 15¢ per inch.
*La Republica*, Tampico, Daily, Sp. and Eng., 2,000, rates furnished upon request.
*La Opinion*, Vera Cruz, Daily, Sp., 14,000, 13¢ per inch to 13¢ per line, according to advertisement.

NICARAGUA

*The American*, Bluefields, Weekly, Eng., 500, $1 per inch per month.
*El Comercio*, Managua, Daily, Sp., 3,000, no fixed rates.
*El Independiente*, Leon, Daily, Sp., 1,000, no fixed rates.
*El Diario Nicaraguense*, Granada, Daily, Sp., 10–15,000, no fixed rates.

PANAMA

*Independent*, Colón, Tri-weekly, Eng., 1,500, 8¢ per inch.
*Colón Starlet*, Colón, Tri-weekly, Eng., 1,500, 8¢ per inch.
*Diario de Panama*, Panama, Daily, Sp., 7–8,000, 10¢ per inch.
*Star and Herald*, Panama, Daily, Eng. and Sp., 10,500, rates furnished upon application.

PARAGUAY

*El Tiempo*, Asunción, Daily, Sp., 3,500, $19.50 per month for full column.
*El Nacional*, Asunción, Daily, Sp., 4,500, $1 per inch per month.
*El Diario*, Asunción, Daily, Sp., 3–4,000, $1.22 per inch per month.

PERU

*El Comercio*, Lima, twice daily, Sp., morning, 20,000; evening, 15,000, $2.33 per line, 6 lines to an inch.
*La Prensa*, Lima, twice daily, Sp., morning, 25,000; evening, 15,000, 24¢ per inch.
*La Union*, Lima, Daily, Sp., 15,000, 35¢ per inch.
*West Coast Leader*, Lima, Weekly, Eng., rates furnished on request.
*Peru To-day*, Lima, Monthly, Eng.

SALVADOR

*Diario del Salvador*, San Salvador, Daily, Sp., 10,000, $1.50 per inch up to three insertions; 12¢ for four or more; double rate for cuts.
*Diario Latino*, San Salvador, Daily, Sp., 4,000, 30¢ per inch 2d to 7th pages, 40¢ for 8th page.

URUGUAY

*El Siglo*, Montevideo, Daily, Sp., 10,000, 53¢ per inch.
*La Razón*, Montevideo, Daily, Sp., 26,000, 92¢ per inch.
*El Dia*, Montevideo, Daily, Sp., 30,000, 80¢ per inch.
*La Tribuna*, Montevideo, Daily, Sp., 25,000, 53¢ per inch.
*Revista de la Asociacion Rural del Uruguay*, Montevideo, Monthly, Sp., $5.17 per page.
*Revista de la Asociación de Ingenieros y Arquitectos del Uruguay*, Montevideo, Monthly, Sp., $10.35 per page.
*Almanaque-Guia de el Siglo*, Montevideo, annually in October, Sp., 12,000.
*Uruguay Weekly News*, Montevideo, Weekly, Sp. and Eng., 1,000, $1.32 per inch.
*Guia Costes*, Montevideo, Semi-annually, Sp., 10,000, $20.60 per page per six months.

VENEZUELA

*El Universal*, Caracas, Daily, Sp., 15,000, 20¢ per inch.
*El Tiempo*, Caracas, Daily, Sp., 6,000, 15¢ per inch.
*El Nuevo Diario*, Caracas, Daily, Sp., 16–18,000, 50¢ per inch.
*El Gran Boletin*, Caracas, Bi-weekly, Sp., 60,000, 10¢ per inch.

# INDEX


PAGE

A. B. C. Mediation between United States and Mexico ..... 454
Abolition of Slavery ..... 529
Acts of Commerce ..... 93
Advertising Rates ..... 871
Agencies, Native ..... 974
Agency and Commission ..... 99
Aguas Calientes ..... 519
Aliens, Registration of ..... 67
Status of ..... 66
Amapala ..... 564
Anabato ..... 363
Amusements ..... 680
Ancón, Treaty of ..... 303
Antofagasta ..... 326
Arbitration ..... 26
Argentina-Chile Boundary ..... 305
Argentina ..... 162 227
Agricultural Products ..... 294
Agricultural Resources, Increase of 293
Agriculture ..... 197
Allotment of Public Lands ..... 62
Arbitration Treaty with Chile ..... 305
Arbitration, Industrial ..... 44
Army ..... 224
Average Wages ..... 42
Banking ..... 215
Banks and Bankers ..... 832
Bibliographies ..... 173, 192, 197, 208, 219
Budgets ..... 154
Cattle Raising ..... 715
Climate ..... 168
Cities ..... 224
Commerce ..... 208
Commerce with the United States 210
Commercial Schools ..... 196
Communications ..... 219
Constitution ..... 192
Consular Regulations, etc. ..... 798
Cotton ..... 709
Crops, Four Principal ..... 207
Debts, Public ..... 156
Department of Labor ..... 43
Development of Banking ..... 215
Education ..... 193
Agricultural ..... 195
Commercial Schools ..... 196
Normal ..... 194
Other Educational Interests ..... 196
Primary ..... 194
Secondary ..... 194
Technical ..... 195
English Expedition of 1806 ..... 179
Fauna ..... 171

Argentina—Continued
Flora ..... 171
Finance ..... 214, 217
Geology ..... 169
Government ..... 192
Hides and Leather ..... 730
History ..... 176
Hygienic Dwellings for Workers ..... 47
Immigration ..... 42, 127, 173
Industrial Accidents ..... 44
Insurance Companies ..... 839
Live Stock ..... 715
Loans from foreign bankers ..... 214
Manufacturing Industries ..... 211
Meat Exports ..... 718
Meat Industry ..... 715
Meat Packing Establishments ..... 718
Mediation between Mexico and the United States ..... 191
Mining Industries ..... 211
Money ..... 218
Navy ..... 224
Newspapers and Periodicals ..... 871
Pastoral Products ..... 718
Patagonia ..... 179
Physiography ..... 162
Political Divisions ..... 224
Population ..... 173
Postal Service ..... 221
Prices of prime necessities ..... 46
Railway Companies ..... 844
Railways, Posts and Telegraphs ..... 221
Railway Transportation ..... 115
Rents in ..... 43
Rice ..... 787
Rural Code ..... 44
San Martin Expedition ..... 182
Shipping ..... 219
Size of Land Holdings ..... 42
Strikes ..... 43
Sugar ..... 705
Telegraphs ..... 221
Tobacco ..... 737
Trading Licenses ..... 815
Transportation ..... 219
War with Paraguay ..... 185
Wool ..... 789
Arica ..... 326
Asphalt ..... 695
Associations in Joint Account ..... 830
Asunción ..... 975
Autos Sacramentales ..... 667
Aux Cayes ..... 665
Ayacucho ..... 393
Aztecs, The ..... 444
Bahamas, Insurance Companies ..... 860
Bahia ..... 280
Bahia Blanca ..... 229

PAGE

Balmaceda ..... 304
Baltimore Incident, The ..... 304
Banana Imports to the United States ..... 773
Banks and Bankers ..... 831
Bani ..... 653
Barahona ..... 658
Barbados, Insurance Companies ..... 861
Barranquilla ..... 349
Belem. See Pará ..... 290
Bermuda, Insurance Companies ..... 861
Bismuth ..... 688
Bluefields ..... 579
Bogotá ..... 348
Bolivar, Simon ..... 182
Bolivia ..... 228–244
  Agriculture ..... 235
  Allotment of Farming and Grazing Land ..... 63
  Banks and Bankers ..... 833
  Banking ..... 238
  Bibliography ..... 242
  Budget ..... 154, 240
  Cattle Hides ..... 719
  Cities ..... 242
  Climate ..... 228
  Commerce ..... 235, 237
  Constitution ..... 232
  Consular Regulations, etc ..... 800
  Cost of Living ..... 45
  Cotton ..... 707
  Debts, Public ..... 156
  Education ..... 234
  Finance ..... 238
  Government ..... 234
  Hides and Leather ..... 735
  History ..... 230
  Immigration ..... 137
  Industries ..... 235
  Insurance Companies ..... 861
  Land Tenure ..... 60
  La Paz ..... 243
  Mining ..... 236
  Mining Laws ..... 110
  Newspapers and Periodicals ..... 871
  Oil ..... 690
  Political Divisions ..... 242
  Posts ..... 240
  Railway Companies ..... 845
  Railways ..... 240
  Railway Transportation ..... 117
  Religion ..... 234
  Rubber ..... 771
  Stock raising ..... 719
  Telegraphs ..... 240
  Topography ..... 228
  Trading Licenses ..... 817
  War with Chile ..... 232, 302
  Wool ..... 784
Borax, Production of ..... 692
Branch Houses ..... 675
Brazil ..... 245–293
  Agriculture ..... 266
  Army ..... 285
  Banking ..... 279
  Banks and Bankers ..... 833
  Bibliography ..... 259, 272
  Budget ..... 155, 281
  Cacao ..... 271
  Cattle Raising ..... 268, 720
Brazil — Continued
  Cattle Hides ..... 719
  Cattle and Meat Industries, Recent advances in ..... 720
  Cattle Exposition of 1917 ..... 720
  Cities ..... 288
  Climate ..... 245
  Coffee ..... 267, 750
  Commerce ..... 276
  Communications ..... 280
  Constitution ..... 260
  Consular Regulations, etc ..... 799
  Cost of Living ..... 46
  Cost of Prime Necessities ..... 46
  Cotton ..... 271, 711
  Debts, Public ..... 156
  Divisions, Political ..... 288
  Education ..... 39, 290
  Effect of the European War ..... 282
  Exchange ..... 280
  Exports ..... 279
  Finance ..... 279
  Forest Products ..... 269
  Government ..... 260
  Hides and Leather ..... 735
  History ..... 249
  Housing of Workers ..... 46
  Immigration ..... 137
  Imports ..... 279
  Independence Proclaimed ..... 255
  Industries ..... 272
  Inhabitants ..... 45
  Insurance Companies ..... 861
  Labor ..... 272
  Land Tenure ..... 59
  Manufacturing Industries ..... 274
  Maté ..... 269
  Meat Exports ..... 721
  Meat Industry ..... 719
  Meat Packing Plants ..... 722
  Mineral Resources ..... 274
  Mining Laws ..... 109
  Money ..... 280
  Navy ..... 285
  Newspapers and Periodicals ..... 872
  Patents ..... 108
  Population ..... 247
  Population, Distribution of ..... 287
  Railway Companies ..... 845
  Railway Transportation ..... 119
  Religion ..... 264
  Republic Proclaimed ..... 257
  Rice ..... 780
  Rubber ..... 268, 766
  Sociedad Nacional de Agricultura ..... 730
  Shipping Facilities for the Meat Export Trade ..... 723
  State Aid to Immigrants and Colonists ..... 61
  Stock Raising ..... 719
  Sugar ..... 270, 762
  Tobacco ..... 271, 759
  Topography ..... 245
  Trading Licenses ..... 815
  Transportation ..... 129, 286
  Wood ..... 780
Brokers ..... 98
Buccaneers ..... 526
Budgets, Latin American ..... 152
Buenos Aires ..... 296

Buenos Aires Blockaded ..... 184
Cable Rates ..... 809
Cacao ..... 148
Caldera ..... 326
Callao ..... 392
Calvo Doctrine, The ..... 68
Camagüey ..... 644
Canal Treaty of 1884 ..... 582
Cap Haitien ..... 665
Cárdenas ..... 434
Cartagena ..... 349
Cattle Industry ..... 714
Ceará. See Fortaleza ..... 293
Celba ..... 564
Central America ..... 521
  Abolition of Slavery ..... 529
  Banana Industry, The ..... 775
  Bibliography ..... 532
  Divisions, Political ..... 521
  English Colony, The ..... 528
  First Spanish Colonies ..... 524
  Hides and Leather ..... 736
  History ..... 524
  Mosquito Coast ..... 527
  Mountain System ..... 522
  Population ..... 49
  Railway Transportation ..... 122
  Recent Events ..... 531
  Rubber ..... 771
  Sanitation Methods ..... 777
  Scotch Colony ..... 527
  Spain in Possession ..... 528
  Transportation ..... 131
  Veragua ..... 526
  Volcanoes ..... 522
  Walker's Campaign ..... 530
Chagres River, The ..... 589
Charlotte Amalie ..... 666
Chihuahua ..... 519
Chile ..... 294-326
  Agricultural Industries ..... 308
  Animal Products ..... 723
  Arbitration with Argentina ..... 305
  Argentina–Chile Boundary ..... 305
  Army ..... 321
  Balmaceda's Régime ..... 304
  Baltimore Incident, The ..... 304
  Banking ..... 317
  Banks and Bankers ..... 834
  Bibliography ..... 323
  Borax, Production of ..... 692
  Boundaries ..... 294
  Budget ..... 155
  Cattle ..... 723
  Causes of Increased Cost of Living ..... 48
  Child Labor Laws ..... 47
  Cities ..... 324
  Climate ..... 294
  Colonization Law ..... 67
  Commerce ..... 313
  Communications ..... 319
  Constitution ..... 306
  Consular Regulations, etc ..... 800
  Cost of Living ..... 45, 47
  Cost of Prime Necessities ..... 48
  Cotton ..... 708
  Currency ..... 316
  Debts, Publi ..... 156
  Earthquake of 1906 ..... 306
Chile—Continued
  Education ..... 322
  Exchange Rates ..... 317
  Exports ..... 314
  Farm Lands, Purchase of ..... 63
    Renting of ..... 59
  Finance ..... 317
  Flora and Fauna ..... 309
  Geography ..... 294
  Government ..... 306
  Hides and Leather ..... 733
  History ..... 300
  Hygienic Dwellings for Workers ..... 47
  Immigrants, Government Subsidy to ..... 63
  Immigration ..... 186
  Imports ..... 314
  Insurance Companies ..... 861
  Labor ..... 310
  Land Tenure ..... 59
  Laws Regulating Child Labor ..... 47
  Manufactures ..... 816
  Mineral Resources ..... 311
  Mining ..... 311
  Money ..... 158
  Naval Armaments Policy ..... 305
  Navy ..... 321
  Neutrality in the *Dresden* Affair ..... 304
  Newspapers and Periodicals ..... 872
  Nitrate, Production of ..... 691
  Pastoral Industries ..... 308
  Political Divisions ..... 324
  Population ..... 321
  Railway Companies ..... 846
  Railway Transportation ..... 115
  Renting of Farm Lands ..... 59
  Rice ..... 791
  Sheep ..... 723
  Tariffs ..... 313
  Territory Extended ..... 303
  Tobacco ..... 742
  Trading Licenses ..... 819
  Transportation ..... 319
  Treaty of Ancón ..... 301
  War with Bolivia and Peru ..... 302
  Wool ..... 780, 784
Chillán ..... 326
Christiansted ..... 667
Civil War Claims ..... 70
Civilization ..... 18
Climate ..... 8
Climate, etc., Effect on Market of ..... 678
Coal ..... 689
Cochabamba ..... 244
Cocoa. See Cacao ..... 148
Coffee Industry, The ..... 750
Colombia ..... 327-349
  Agriculture ..... 339
  Arbitration ..... 305
  Army ..... 340
  Banking ..... 343
  Banks and Bankers ..... 845
  Bibliography ..... 347
  Boundaries ..... 327
  Budget ..... 156
  Cattle Hides ..... 724
  Cattle Industry ..... 724
  Cattle Raising ..... 724
  Cities ..... 348
  Climate ..... 329
  Codes ..... 338

Colombia—Continued. Page
Coffee 752
Commerce 342
Communications 346
Consular Regulations, etc 801
Cotton 794
Debt, Foreign 345
Debts, Public 156
Education 338
Finance 343
Flora and Fauna 329
Forest Lands, Grants of 64
Government 336
History 331
Immigration 138
Insurance Companies 861
Judiciary 338
Manufactures 341
Mineral Resources 330
Mining Laws 110
Navy 346
Newspapers and Periodicals 872
Oil 690
Physical Features 327
Political Divisions 348
Population 347
Purchase of Public Lands 64
Railway Companies 846
Railway Transportation 118
Recent Events 335
Rice 792
Rubber 770
Sugar 763
Tobacco 743
Trading Licenses 819
Transportation 130, 346
Wool 785
Colón 609
Colonia 410
Colonists, Governmental Aid of 61
Commerce, Growth of 74
With the United States 76
Commercial Customs 681
Commercial Regulations 91
Commission. See Agency and Commission 99
Commission Houses, Export 676
Companies
Commercial 854
Financial 840
Companies, Financial and Commercial, List of 831
Industrial 854
Insurance 860
Investment 840
Land 840
Lighting, Power and Traction 851
Limited (Joint Stock) 827
Railway 844
Shipping 849
Companies and Partnerships 824
Concepción 326
Constitutions, Recent Changes in 150
Consular Documents 797
Procedure 797
Regulations 797
Contract Claims 73
Contracts 100
Copper 687
Córdoba 227

Page
Correspondence as a Trade Method 671
Cortés 446
Costa Rica 523-543
Army 542
Banks and Bankers 825
Banking 540
Bibliography 543
Boundaries 523
Budget 156
Cattle and Meat Industries 723
Cities 541
Coffee 754
Commerce 538
Communications 540
Consular Regulations 802
Cotton 766
Debt, National 541
Debts, Public 156
Education 537
Exports 539
Fruit 774
Government 537
Hides 725
History 535
Immigration 139
Imports 539
Industry 538
Insurance Companies 861
Money 540
Newspapers and Periodicals 872
Political Divisions 543
Population 542
Railway Companies 847
Religion 537
Rice 789
Sugar 764
Tobacco 744
Trading Licenses 819
Transportation 540
Weights and Measures 540
Cotton Industry in Latin America 694
Cotton Production in Latin America 696
Cotton Trade of United States and Latin America 694, 695
Cuba 621-644
Agriculture 626
American Occupation 631
Annexation Policy 628
Banking 640
Banks and Bankers 836
Bibliography 642
Boundaries, etc 621
Budget 156
Cattle Exports 726
Cattle Industry 725
Cities 643
Commerce 638
Communications 641
Congress 635
Constitutional Convention 632
Consular Regulations, etc 802
Cotton 761
Cotton Imports 762
Debts, Public 158
Destruction of the *Maine* 630
Education 636
Emancipation and the United States 628
Finance 640
Fruit 773

Cuba — Continued: PAGE
Geology ... 623
Government ... 635
Hides and Leather ... 736
History ... 625
Housing the Workers ... 48
Immigration ... 139
Insurance Companies ... 862
Live Stock ... 725
Minimum Wage Law ... 48
Mountains ... 622
Natural Resources ... 624
Newspapers and Periodicals ... 873
Physical Features ... 621
Platt Amendment, The ... 632
Political Divisions ... 643
Population ... 642
Railway Companies ... 847
Recent Events ... 634
Reorganization of the Industrial System ... 48
Revolt of 1917 ... 635
Revolution of 1895 ... 628
Rice ... 795
Soils ... 623
Sugar ... 738
Tobacco ... 637, 739
Trading Licenses ... 820
Transportation ... 641
War between Spain and the United States ... 631
Weyler's Policy ... 629
Cuenca ... 363
Curitiba ... 293
Cuyaba ... 293
Cuzco ... 393
Danish West Indies. See Virgin Islands. 666
Debts ... 104, 155
Dessalines ... 648, 662
Desterro. See Florianopolis ... 293
Diaz, Porfirio ... 451, 452
Discoverers and Pioneers ... 20
Dolphin Incident, The ... 454
Dominican Republic ... 645 653
Army ... 652
Banks and Bankers ... 836
Banking ... 650
Bibliography ... 652
Boundaries ... 645
Budget ... 157
Cities ... 653
Climate ... 647
Commerce ... 651
Communications ... 652
Consular Regulations, etc ... 803
Cotton ... 703
Debts, Public ... 156
Education ... 650
Exports ... 651
Fauna and Flora ... 647
Finance ... 650
Forests ... 647
General Description ... 645
Geology ... 646
Government ... 650
Harbors ... 645
History ... 647
Immigration ... 139
Imports ... 651
Industry ... 651
Dominican Republic — Continued PAGE
Insurance Companies ... 862
Mineral Resources ... 646
Mountains ... 645
Newspapers and Periodicals ... 873
Political Divisions ... 653
Population ... 652
Railway Companies ... 847
Religion ... 650
Rice ... 795
Rivers ... 645
Soils ... 647
Sugar ... 709
Tobacco ... 744
Trading Licenses ... 823
Transportation ... 652
Drago Doctrine, The ... 69
Dresden Affair, The ... 398
Durango ... 519
Dutch in Brazil, The ... 282
Economic Scope of Constitutional Reforms ... 150
Ecuador ... 350 363
Agriculture ... 359
Army ... 361
Banking ... 358
Banks and Bankers ... 836
Bibliography ... 362
Boundaries ... 350
Budget ... 157
Cacao ... 148, 357
Cattle Industry ... 726
Cities ... 362
Climate ... 351
Cocoa ... 148, 357
Coffee ... 756
Commerce, Foreign ... 357
Consular Regulations, etc ... 804
Cost of Living ... 49
Cotton ... 705
Debts, Public ... 156
Education ... 356
Finance ... 358
Government ... 354
Hides and Leather ... 735
History ... 352
Immigration ... 139
Insurance Companies ... 862
Judiciary ... 356
Land Tenure ... 60
Literature ... 357
Live Stock and Meat Industries ... 726
Mineral Resources ... 352
Navy ... 361
Newspapers and Periodicals ... 872
Physical Features ... 350
Population ... 362
Postal Service, etc ... 360
Provinces ... 362
Railway Companies ... 847
Railways ... 360
Railway Transportation ... 118
Rice ... 791
Telegraphs ... 360
Tobacco ... 745
Trading Licenses ... 820
Waterways, Inland ... 361
Education ... 21, 22, 24, 31, 32, 34-35
English Colony, The ... 528
Esmeraldas ... 363

| | PAGE |
|---|---|
| Exports from Latin America | 75 |
| Florianopolis | 293 |
| Foodstuffs, Production of | 146 |
| Foreign Commerce | 28 |
| Foreign Trade Bibliography | 86 |
| Foreign Trade Development | 74 |
| General Survey and Distribution of | 80 |
| Valuation and Distribution Table of Exports | 82 |
| Valuation and Distribution Table of Imports | 82 |
| Foreword | 3 |
| Fortaleza | 293 |
| Fray Bentos | 410 |
| Frederiksted | 667 |
| Fruit Trade, The, of Latin America | 773 |
| Gold | 684 |
| Production of | 685 |
| Government. See Politics and Government | 679 |
| Governments | 14 |
| Granada | 579 |
| Greytown. See San Juan del Norte | 579 |
| Guadalajara | 520 |
| Guadeloupe, Insurance Companies | 862 |
| Guanajuato | 520 |
| Guantanamo | 644 |
| Guatemala | 544-556 |
| Agriculture | 551 |
| Banks and Bankers | 836 |
| Bibliography | 555 |
| Boundaries etc | 544 |
| Budget | 157 |
| Cattle Raising | 727 |
| Cities | 556 |
| Climate | 545 |
| Coffee | 753 |
| Commerce | 552 |
| Consular Regulations, etc | 804 |
| Cotton | 697 |
| Debts, Public | 156 |
| Division of Public Lands | 63 |
| Education | 550 |
| Finances | 554 |
| Flora and Fauna | 546 |
| Geology | 546 |
| Government | 549 |
| Government, Local | 549 |
| History | 546 |
| Hydrography | 545 |
| Immigration | 140 |
| Industry | 552 |
| Insurance Companies | 862 |
| Judiciary | 550 |
| Manufactures | 553 |
| Mineral Resources | 546 |
| Money | 555 |
| Navigation | 554 |
| Oil | 691, |
| Packing Plant | 727 |
| Political Divisions | 556 |
| Population | 555 |
| Premiums for Cultivation of Rubber, Cacao, Cotton, etc | 63 |
| Railway Companies | 847 |
| Railways, Roads, etc | 554 |
| Religion | 550 |
| Rice | 796 |
| Shipping | 554 |
| Sugar | 703 |
| Tobacco | 746 |
| Trading Licenses | 820 |
| Weights and Measures | 555 |
| Guatemala City | 556 |
| Guayaquil | 383 |
| Guiana, Railway Transportation | 119 |
| Haiti | 660-686 |
| Banks and Bankers | 836 |
| Bibliography | 685 |
| Boundaries | 660 |
| Budget | 158 |
| Cities | 665 |
| Coffee | 757 |
| Commerce | 663 |
| Communication | 664 |
| Consular Regulations, etc | 805 |
| Cotton | 702 |
| Debts, Public | 156 |
| Description | 660 |
| Education | 663 |
| Exports | 664 |
| Finance, etc | 663 |
| Government | 661 |
| History | 660 |
| Imports | 664 |
| Industry | 663 |
| Insurance Companies | 862 |
| Newspapers and Periodicals | 870 |
| Political Divisions | 665 |
| Population | 663 |
| Religion | 661 |
| Rice | 796 |
| Secession of Dominica | 662 |
| Trading Licenses | 821 |
| Transportation | 664 |
| Havana | 642 |
| Hides, Production of, in Latin America | 734 |
| History and Development of Latin America | 161 |
| Honduras | 557-564 |
| Agriculture | 561 |
| Banking | 562 |
| Banks and Bankers | 836 |
| Bibliography | 564 |
| Boundaries | 557 |
| Budget | 158 |
| Cattle Raising | 727 |
| Cities | 564 |
| Commerce | 561 |
| Communications | 562 |
| Concessions of National Lands | 64 |
| Consular Regulations, etc | 805 |
| Cotton | 698 |
| Debts, Public | 156 |
| Description, General | 557 |
| Education | 560 |
| Finance | 562 |
| Government | 559 |
| Hides | 738 |
| History | 558 |
| Insurance Companies | 862 |
| Manufactures | 563 |
| Meat Packing Plant | 728 |
| Minerals | 562 |
| Newspapers and Periodicals | 870 |
| Political Divisions | 564 |
| Religion | 560 |
| Rice | 796 |

Honduras — Continued PAGE
Tobacco 747
Trading Licenses 821
Transportation 563
Woods 562
Honduras, British, Insurance Companies, 862
Rubber 771
House Construction 679
Huerta, Victoriano 453
Ibarra 363
Loans in Latin America 29
Immigrants, Governmental Aid of, 61, 137
Immigration 137
Independence 23
Industrial and Commercial Expansion in 74
Industries of Latin America, Principal 669
Insurance Companies 860
Interest. See Loans and Interest 103
International Claims Against Latin America 66
Iquique 325
Iquitos 393
Iron 691
Jamaica 654-659
Agriculture 655
Banks and Bankers 837
Bibliography 659
Commerce 656
Dependencies 658
Description 654
Education 657
Fauna and Flora 655
Government 657
History 658
Insurance Companies 862
Railways 656
Religion 657
Roads, etc. 656
Tenure 58
Towns 658
Justice, Denial of 67
Kingston 658
Labor Conditions, Resumé of 53
Labor Problems and Their Solution 40
La Guaira 435
Land Ownership 55
Languages 14
La Paloma 410
La Paz 243
La Plata 227
La Serena 326
Latin America, General Descriptive Article 7
Acts of Commerce 93
Agency and Commission 99
Aliens, Status of 66
Amusements 680
Arbitration 26
Asphalt Production 693
Awakening Interest of North Americans in 25
Beginnings of Revolution 22
Bibliography on Industrial and Commercial Expansion 86
Bismuth 688
Brokers 98
Budgets 153
Cacao 148
Calvo Doctrine 68
Cattle Raising 714

Latin America — Continued PAGE
Civilization 18
Civil War Claims 70
Climate 8, 678
Climatic Values of Altitude 9
Coal 689
Cocoa. See Cacao
Coffee Industry, The 720
Colonization Period 21
Commerce with the United States 76
Commercial Customs 681
Contracts 100
Contract Claims 70
Cotton Industry, The 694
Cotton Production 696
Copper 687
Debts, Public 155
Denial of Justice 67
Discoverers and Pioneers 20
Disposal of Property 57
Drago Doctrine 69
Early Constitutional Development 23
Early Education 21
Economic Scope of Constitutional Reforms 150
Education 31
Commercial Education 42
Higher and Professional 36
Historical Development 31
Industrial Education 38
Normal Schools 44
Organization of Universities 37
Primary Instruction 42
Retarding Causes 39
Secondary Education 35
Theological Education 39
Educational Standards 34
Fauna and Flora 11
Finances 153
First University Founded 22
Foodstuffs, Production of 146
Foreign Commerce 28
Foreign Trade Development 74
Fruit Trade, The 779
General Commercial Regulations 91
Gold 684
Gold Production of 685
Governmental Encouragement of Immigrants and Colonists 61
Governments 14
Greatest Need of 149
Greatest Undeveloped Region 143
Hides and Leather, Production of 734
History and Development 101
House Construction 679
Ideals 29
Immigration 137
Industrial and Commercial Expansion 74
Industries, Principal 669
Intellectual and Material Progress 25
International Claims 66
Introduction of the Printing Press 22
Iron 691
Labor Conditions, Resumé of 53
Labor Problems and Their Solution 40
Land Ownership 55
Land Tenure 58
Languages 14
Leaders in the Revolution 23

Latin America — Continued PAGE
Loans and Interest 103
Machinery, Use of 681
Market, Characteristics of 678
Material Phases of Civilization 28, 29
Meat Industry 714
Mercantile Books 97
Merchants 93
Merchants, Registration of 96
Mineral Industry 683
Mining Laws 109
Monopolies 56
National Evolution 28
Newspapers and Periodicals 871
Official Liabilities 57
Ocean Transportation 123
Parcel Post Facilities 866
Patents 108
Petroleum 689
Platinum 688
Politics and Government 679
Production 143
Property Rights 55
Railway Transportation 111
Raw Materials, Production of 148
Registration of Aliens 67
Religious Property 56
Revolution 23
Rice Production 786
River Transportation 128
Rubber Industry 706
Silver 686
Production of 687
Sugar Industry 758
Tariffs 87
Thorium 693
Tin 688
Tobacco Industry 737
Tortious Injuries 72
Trade Between the 20 Republics 82
Trade Marks 106
Trade Methods 670
Tungsten 692
Vanadium 692
Wool 780
Leather. See Hides and Leather in Latin America 734
Leon 579
Liabilities, Official 57
Lima 392
Limón 543
Loans and Interest 103
Macedá 292
Machinery, Use of 681
Macoris 653
Madero, Francisco I. 452, 453
Maldonado 410
Managua 579
Manáos 292
Manganese 693
Manzanillo 644
Maracaibo 435
Maranhão 292
Markets, Characteristics of 678
Martinique, Banks and Bankers 837
Matanzas 644
Maturin 435
Maximilian, Emperor of Mexico 450
Meat Industry 714
Medellin 349
Mejillones 326
Mendoza 227
Mercantile Books 97
Merchants 93
Registration of 96
Metric System, The 864
Equivalents 865
Tables 865
Mexico 429, 526
"A. B. C." Mediation 454
Agave or Maguey 480
Agriculture 476
Arbitration in Labor Disputes 464
Army 514
Art Collections 474
Autos Sacramentales 467
Aztecs, The 444
Banana Production 480
Banking and Finance 507
Banks and Bankers 887
Beer, Wines, etc 492
Bibliographies 437, 471
Birds 442
Boundaries 420
Budget 158
Candles, etc. 493
Carrizal Affair, The 456
Cattle Industry 728
Chemical Products 493
Chicle 482
Child Labor Laws 463
Church and State, Relations of 462
Cities 518
Climate 440
Coffee 736
Commerce 483
Commercial Code 485
Communications 502
Colonial Period 504
Republican Period 505
Conference at New London 456
Constitution 457
Constitutional Amendments of 1917 460
Consular Regulations, etc. 806
Convention at Aguascalientes 455
Corn Raising System 51
Cortés, Advent of 446
Cost of Living 50
Cotton 489, 626
Customs House Receipts 484
Debts, Public 156, 512
Díaz Régime 451
Difficulty with the United States 454
*Dolphin* Incident, The 454
Downfall of the Madero Government 453
Dynamite and Explosives 496
Education 470
Educational Budgets 472
Embargo on Cattle Exports 728
Exchange Rates 507
Explosives 496
Export Statistics 486
Finance 507
Fishes 443
Flora and Fauna 441
Flour Mills 496
Flowers 442
Furniture Trade 685

Mexico — Continued :
PAGE
Government ..... 457
Guayule ..... 494
Henequen ..... 479
History ..... 444
Pre-Conquest Period ..... 444
Spanish Rule ..... 447
Independent State ..... 448
Huerta Régime ..... 452
Immigration ..... 140
Import Statistics ..... 486
Indian Corn, Production of ..... 478
Instruction, Primary ..... 475
Insurance Companies ..... 863
Iron and Steel Products ..... 494
Labor Conditions ..... 49
In Mines ..... 51
Labor Contracts ..... 464
Labor Laws ..... 463
Lakes and Lagoons ..... 439
Laws Relating to Women in Industry ..... 463
Lemons ..... 481
Libraries ..... 473
Library, The National ..... 474
Limes ..... 481
Literary Progress in the 16th Century ..... 467
Literary Progress in the 17th Century ..... 468
Literary Progress in the 18th Century ..... 469
Literature ..... 465
Of the Republican Period ..... 470
Live Stock Exports, Decreasing ..... 728
Maguey. See Agave ..... 480
Mango ..... 482
Manufactures ..... 487
Maximilian, Emperor ..... 450
Mineral Production ..... 496
Colonial Period ..... 497
Revolutionary Period ..... 500
Iturbide to Diaz ..... 500
Diaz to Madero ..... 501
Minerals ..... 496
Money ..... 507
Museums ..... 474
National Preparatory School ..... 476
Native Manufactures ..... 487
Navy ..... 514, 517
Newspapers and Periodicals ..... 873
Oil ..... 690
Oranges ..... 481
Orizaba Conference ..... 450
Packing Houses ..... 495
Paper ..... 495
Pershing Expedition, The ..... 456
Pineapples ..... 482
Political Divisions ..... 518
Population ..... 517
Postal Service ..... 507
Raids on United States Border ..... 455
Railway Companies ..... 848
Development ..... 505
Transportation ..... 1-4
Recent Legislation in Regard to Property ..... 56
Revolution of 1910 ..... 452
Rice ..... 795

Mexico — Continued
PAGE
Rivers ..... 438
Rubber ..... 480, 771
Guayule ..... 479
Silk ..... 490
Soap, etc ..... 493
Stock Raising ..... 476, 482
Sugar ..... 479, 782
Textiles and Fibres ..... 491
Timber ..... 446
Tobacco ..... 480, 495, 747
Topography ..... 437
Trade with the United States ..... 486
Trading Licenses ..... 821
Transportation ..... 131, 503
Valleys ..... 440
Vera Cruz Occupied by United States Forces, 1914 ..... 454
Wages of Laborers and Miners ..... 51
War with the United States ..... 449
Wheat ..... 478
Woolen Goods ..... 489
Writers of the Diaz Period ..... 471
Writers of the Early Period ..... 466
Yucca ..... 482
Mexico City ..... 482
Mineral Industry of Latin America ..... 519
Mining Laws ..... 688
Mollendo ..... 109
Moneys ..... 593
Monopolies ..... 151
Monterey ..... 56
Montevideo ..... 529
Mosquito Coast ..... 610
Mountain Sickness, or Soroche ..... 527
Natal ..... 19
National City Bank of New York ..... 292
National Evolution ..... 215, 217
Newspapers and Periodicals ..... 28
Nicaragua ..... 871
Army ..... 565-579
Banking ..... 578
Banks and Bankers ..... 577
Bibliography ..... 858
Boundaries ..... 579
Budget ..... 565
Canal Treaty ..... 158
Cattle Industry ..... 571
Cities ..... 729
Coffee ..... 579
Commerce ..... 735
Consular Regulations, etc ..... 807
Cotton ..... 699
Debts, Public ..... 156
Education ..... 573
Exports ..... 574
Fauna and Flora ..... 567
Finance ..... 577
Government ..... 570
History ..... 568
Imports ..... 574
Industry ..... 573
Insurance Companies ..... 863
Meat Industry ..... 729
Mineral Resources ..... 567
Monetary System ..... 576
Navy ..... 578
Newspapers and Periodicals ..... 874
Physical Features ..... 565
Political Divisions ..... 570

Nicaragua — Continued: PAGE
Population ... 578
Railway Companies ... 848
Railways ... 575
Religion ... 573
Rice ... 794
Shipping ... 575
Trading Licenses ... 821
Weights and Measures ... 576
Nicaragua Canal ... 580–584
Bibliography ... 584
Route Selected ... 583
Treaty ... 571
Nitcheroy ... 293
Nisao ... 653
Nitrates ... 691
Ocean Transportation ... 123
Oruro ... 244
Panama Canal ... 601
Bibliography ... 606
Cost of ... 606
Facts About the Canal ... 605
Insurance Companies ... 861
Sanitation ... 602
Toll Rates ... 606
Panama Canal and International Commerce ... 604
Panama Canal Route Decision ... 584
Panama City ... 606
Panama, Isthmus of ... 585
Panama, Republic of ... 587–600
Banking ... 598
Banks and Bankers ... 838
Bibliography ... 600
Boundaries ... 587
Budget ... 158
Cattle Industry ... 729
Chagres River ... 589
Cities ... 600
Climate ... 588
Commerce ... 594
Consular Regulations, etc. ... 808
Cotton ... 700
Education ... 596
Finance ... 598
Fortifications ... 590
Government ... 596
History ... 590
Immigration ... 140
Industry ... 597
Insurance Companies ... 863
Meat Industry ... 729
Newspapers and Periodicals ... 874
Police ... 599
Political Divisions ... 600
Population ... 590
Posts and Telegraphs ... 599
Rice ... 794
Seismology ... 589
Tides ... 589
Trading Licenses ... 822
Transportation ... 599
Pan American Union ... 27
Pará ... 290
Paraguay ... 364–375
Agriculture ... 370
Banking ... 373
Banks and Bankers ... 838

Paraguay — Continued: PAGE
Bibliography ... 374
Boundaries ... 364
Budget ... 179
Cattle Industry ... 730
Climate ... 366
Commerce ... 370
Consular Regulations, etc. ... 809
Cotton ... 710
Debts, Public ... 156
Education ... 369
Exports ... 372
Finance ... 371
Forest Industries ... 370
Government ... 368
Hides and Leather ... 730
History ... 366
Hydography ... 365
Immigration ... 141
Imports ... 372
Industry ... 370
Insurance Companies ... 863
Meat Industry ... 730
Mineral Resources ... 366
Monetary System ... 371
Newspapers and Periodicals ... 874
Physical Features ... 364
Political Divisions ... 371
Post Offices ... 374
Railroads ... 374
Railway Companies ... 848
Religion ... 369
Rice ... 790
Soils ... 366
Tannin ... 371
Tobacco Crop ... 371, 741
Topography ... 365
Trading Licenses ... 822
Waterways ... 374
Parahyba ... 283
Parcel Post Facilities ... 806
Partnerships, Accidental ... 830
Between Capital and Industry ... 830
Limited ... 827
Unlimited ... 825
Patagonia ... 199
Patents ... 108
Paysandú ... 410
Periodicals. See Newspapers and Periodicals ... 871
Pernambuco ... 291
Peru ... 376–397
Accident Compensation Law ... 52
Agriculture ... 384
Army ... 390
Asiatic Labor ... 52
Banking ... 387
Banks and Bankers ... 839
Bibliography ... 391
Boundaries ... 376
Budget ... 179
Cattle Industry ... 731
Cities ... 392
Climate ... 379
Colonization Laws ... 64
Commerce ... 384
Consular Regulations, etc. ... 809
Cost of Living ... 45
Cotton ... 706

Peru — Continued: PAGE
Debts, Public ..... 156
Diplomatic and Consular Service... 383
Education ..... 383
Exports ..... 385
Finance ..... 387
Flora and Fauna ..... 379
Government ..... 382
Hides and Leather ..... 736
History ..... 379
Hydrography ..... 376
Immigration ..... 141
Imports ..... 385
Industry ..... 384
Insurance Companies ..... 863
Labor Contract Conditions ..... 52
Measures and Weights ..... 390
Meat Industry ..... 731
Mineral Resources ..... 378
Money ..... 387
Monetary System ..... 387
Navigation ..... 389
Navy ..... 390
Newspapers and Periodicals ..... 874
Oil ..... 690
Political Divisions ..... 392
Population ..... 391
Postal System ..... 390
Railway Companies ..... 848
Railways ..... 389
Railway Transportation ..... 117
Religion ..... 383
Rice ..... 789
Roads, Construction of ..... 390
Rubber ..... 770
Sugar ..... 761
Tariff, The ..... 387
Telegraphs ..... 390
Telephone System ..... 390
Tobacco ..... 748
Topography ..... 376
Trade with the United States ..... 386
Trading Licenses ..... 822
Treaty of Ancón ..... 303
Wage Law ..... 52
War with Chile ..... 302
Wool ..... 784, 785
Petroleum ..... 689
Pinar del Rio ..... 644
Platinum ..... 688
Politics and Government ..... 679
Port Antonio ..... 658
Port-au-Prince ..... 665
Porto Alegre ..... 292
Porto Rico, Banks and Banking ..... 839
Exports ..... 668a
Fruit ..... 774
Insurance Companies ..... 863
Statistics of ..... 668a, 668b
Portoviejo ..... 363
Port Royal ..... 658
Postal Rates and Regulations ..... 866
Postal Rates, Table of ..... 869
Postal Union Rates ..... 866
Potosí ..... 244
Prescription ..... 104
Producing Region, Latin America the Greatest Undeveloped ..... 143
Progress, Intellectual and Material ..... 25

PAGE
Property, Disposal of ..... 91
Religious ..... 96
Rights ..... 56
Puebla ..... 520
Puerto Cabello ..... 455
Puerto Cortes ..... 564
Puerto Plata ..... 656
Puerto Principe. See Camagüey ..... 644
Puno ..... 793
Punta Arenas ..... 326
Puntarenas ..... 543
Quezaltenango ..... 576
Quito ..... 362
Railway Transportation in Latin America 111
Argentina ..... 113
Bolivia ..... 117
Brazil ..... 119
Central America ..... 122
Chile ..... 116
Colombia ..... 118
Ecuador ..... 118
Guiana ..... 119
Mexico ..... 121
Peru ..... 117
Uruguay ..... 115
Venezuela ..... 119
Raw Materials, Production of ..... 148
Recife. See Pernambuco ..... 301
Reforms, Constitutional ..... 130
Reply Coupons, International ..... 868
Rice Production ..... 786
Riobamba ..... 365
Rio de Janeiro ..... 288
River Transportation ..... 128
Rosario ..... 226
Rubber Industry, The ..... 766
Rubber of Para ..... 767
Rubber, Six Kinds of ..... 766
Saltillo ..... 520
Salvador ..... 607, 614
Agriculture ..... 611
Banking ..... 612
Banks and Bankers ..... 839
Bibliography ..... 614
Boundaries ..... 607
Budget ..... 159
Cattle Industry ..... 732
Cities ..... 614
Climate ..... 608
Coffee ..... 757
Commerce ..... 611
Consular Regulations, etc ..... 816
Cotton ..... 699
Debts, Public ..... 156
Diplomatic and Consular Service ..... 616
Education ..... 611
Fauna and Flora ..... 608
Finance ..... 612
Government ..... 610
History ..... 609
Immigration ..... 141
Insurance Companies ..... 863
Method of Taking Title to Unsettled Public Lands ..... 65
Mineral Resources ..... 608
Newspapers and Periodicals ..... 874
Political Divisions ..... 614
Population ..... 611
Railway Companies ..... 849

Salvador — Continued PAGE
Railways, etc. 613
Religion 611
Revenues 613
Rice 794
Shipping 613
Soil 608
Trading Licenses 823
St. Croix 666, 667
St. John 666
St. Thomas 666
Insurance Companies 863
Samaná 653
Sanchez 653
Sancti-Spiritus 644
San Domingo 653
San José 543
San Juan del Norte 579
San Luis Potosí 520
San Martín 182
San Pedro Sula 504
San Salvador 614
Santa Anna 448, 449
Santa Clara 644
Santa Cruz 244
Santiago de Chile 324
Santiago de Cuba 644
Santiago de los Caballeros 653
Santos 291
São Luiz. See Maranhão 292
São Paulo 289
Scotch Colony on the Isthmus 527
Silver 686
Silver, Production of 687
Slavery, Abolition of 529
Soroche 10
Spanish Town 658
Sucre 243
Sugar Industry, The 758
Sulphur 693
Talcahuano 326
Tariffs 87
Tarija 244
Taxes 812
Tegucigalpa 564
Therezina 293
Thorium 693
Time, Differences in 870
Tin 688
Tobacco Industry of Latin America 737
Tocopilla 326
Tortious Injuries 72
Toussaint L'Ouverture 648, 661
Trade Between Latin-American Countries 83
Trade Marks 106
Methods 670
Trading Licenses 812, 815
Transportation Facilities Between United States and River Plate Ports 125
On West Coast 126
Transportation in Central America 131
Inland 133
In Mexico 131
In South America 123
Ocean and River 123
Travelers, Commercial 672
Licenses for 812
Trinidad (Cuba) 644
Tucumán 227

PAGE
Tungsten 692
Tupiza 244
Uruguay 394-410
Army 409
Banking 405
Banks and Bankers 839
Bibliography 409
Boundaries 394
Budgets 160, 407
Cattle Raising 732
Cities 409
Climate 395
Commerce 404
Communications 408
Consular Regulations, etc. 810
Consular Service 480
Cost of Living 53
Cotton 711
Debts, Public 156, 407
Diplomatic Service 480
Education 408
Exchange Rates 406
Exports 404
Fauna and Flora 395
Finance 405
Government 399
Governmental Encouragement to Live Stock Industry 733
Hides and Leather 736
History 397
Immigration 141
Imports 404
Industries, Agricultural 402
Industries, Manufacturing 403
Industries, Pastoral 402
Insurance Companies 863
Measures 408
Meat Industry 732
Meat Packing Plants 733
Mineral Resources 395
Money 152, 405
Navy 409
Newspapers and Periodicals 874
Political Divisions 409
Population 409
Railway Companies 849
Railway Transportation 135
Religion 400
Rice 792
Topography 394
Trading Licenses 823
Transportation 408
Wages 52
Weights 408
Wool 783
Valdivia 326
Valparaíso 325
Vanadium 692
Venezuela 411-435
Agriculture 426
Army 425
Asphalt Production 693
Banking 428
Banks and Bankers 840
Bibliography 433
Boundaries 411
Boundary Disputes 421
Budget 160, 429
Castro Régime 427

Venezuela — Continued: PAGE
Cattle Industry ..... 426, 733
Cities ..... 434
Cleveland Message ..... 421
Climate ..... 413
Coffee ..... 755
Commerce ..... 427
Communications ..... 431
Consular Regulations, etc. ..... 811
Cost of Prime Necessities ..... 53
Cotton ..... 705
Debts, Public ..... 156, 430
Education ..... 424
Exchange Rates ..... 429
Exports ..... 428
Fauna and Flora ..... 416
Finance ..... 428
Foreign Coins, Valuation of ..... 429
Geology ..... 415
Government ..... 422
Healthfulness ..... 413
Hides and Leather ..... 736
History ..... 418
Immigration ..... 142
Industries, Manufacturing ..... 426
Insurance Companies ..... 863
Meat Industry ..... 733
Mineral Resources ..... 415
Money ..... 428
Navy ..... 425
Newspapers and Periodicals ..... 874
Oil Production ..... 690
Political Divisions ..... 434
Population ..... 433
Ports ..... 432
Venezuela — Continued: PAGE
Railway Companies ..... 849
Railway Transportation ..... 119
Religion ..... 424
Rice ..... 790
Rubber ..... 771
Steamer Service with the United States ..... 492
Sugar ..... 764
Tobacco ..... 749
Topography ..... 411
Trading Licenses ..... 823
Transportation ..... 127, 491
Wages ..... 54
War of Independence ..... 419
Vera Cruz ..... 520
American Occupation of, 1914 ..... 454
Veragua ..... 526
Victoria ..... 293
Virgin Islands ..... 668, 668
Area ..... 668
Climate ..... 667
Cotton ..... 703
Population ..... 668
Steamship Lines ..... 668
Voyages, Length of Steamship ..... 128
Walker, William ..... 530
War on the Pacific ..... 302
West India Islands ..... 611
West Indies, Bibliography ..... 629
Climate ..... 618
History ..... 618
Trade Policies ..... 619
Wool in Latin America ..... 730
Zanjón, Treaty of ..... 627

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